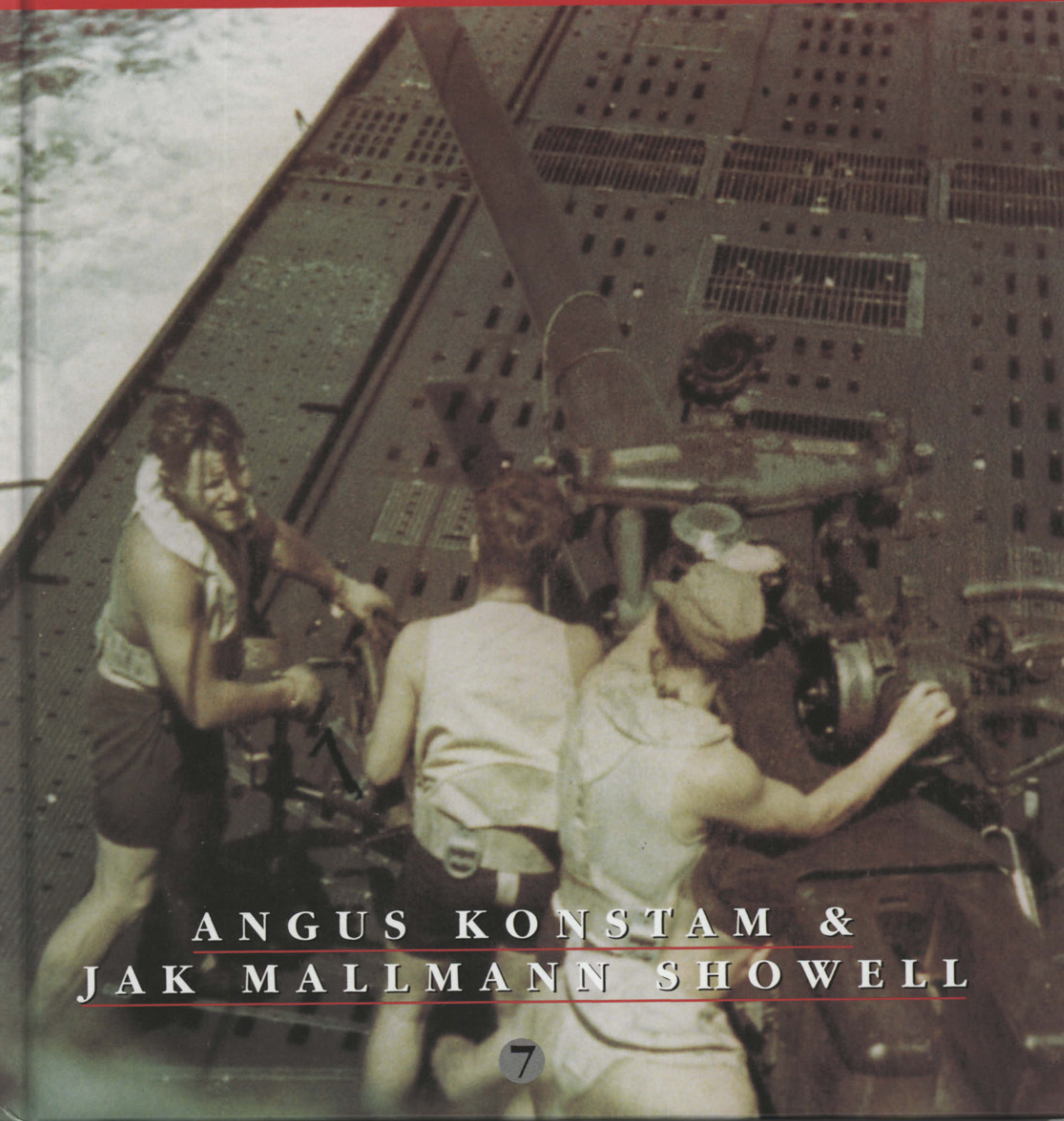
SPEARHEAD

7th U-BOAT FLOTILLA

Dönitz's Atlantic Wolves



ANGUS KONSTAM &
JAK MALLMANN SHOWELL

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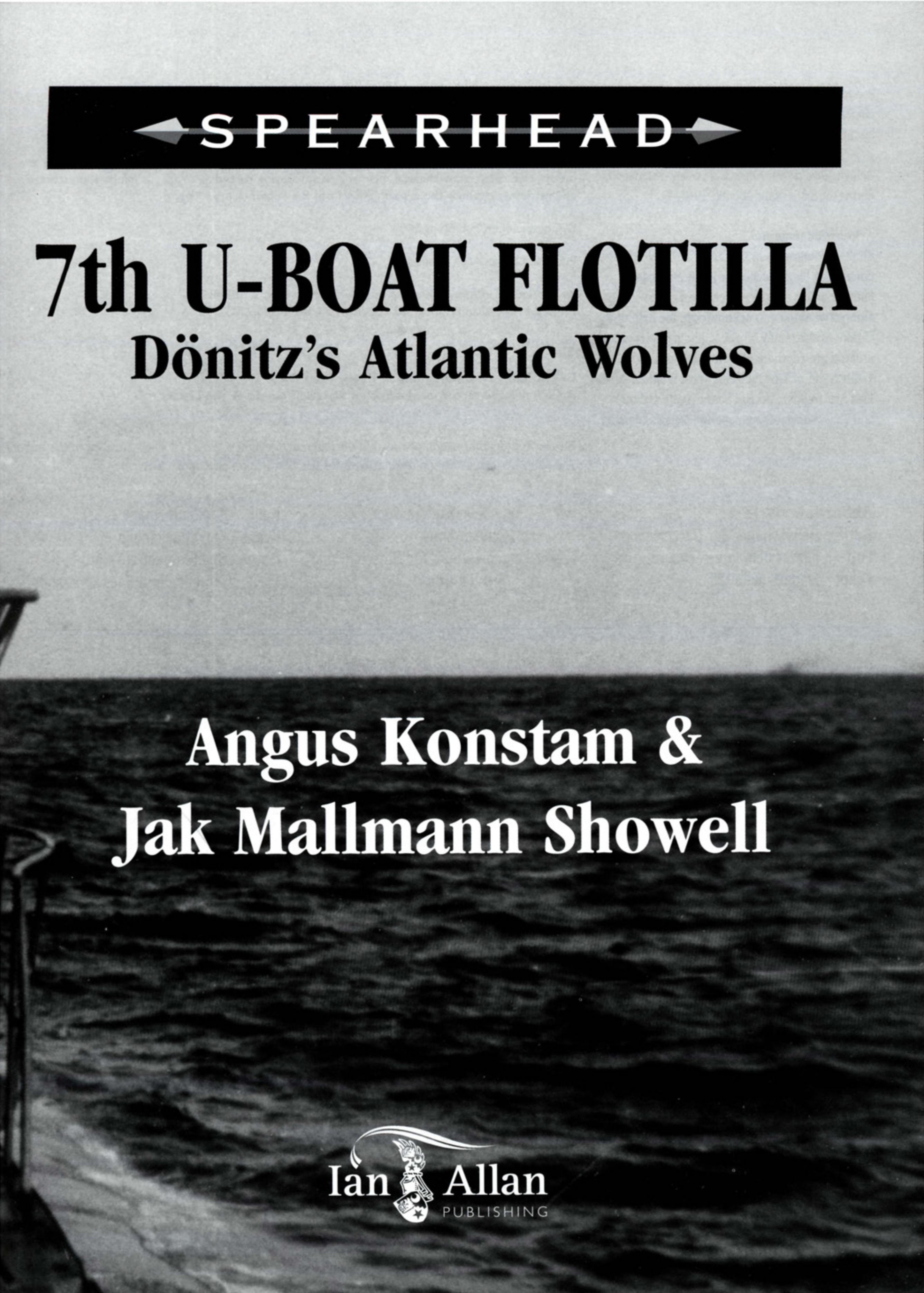

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Dönitz's Atlantic Wolves

Angus Konstam &
Jak Mallmann Showell

Ian Allan
PUBLISHING

Previous page: This Type VIIC has modified anti-aircraft platforms but the heavier guns have not yet been fitted.

Below: Allied convoy routes and convoy designations during the Battle of the Atlantic, 1940–43.

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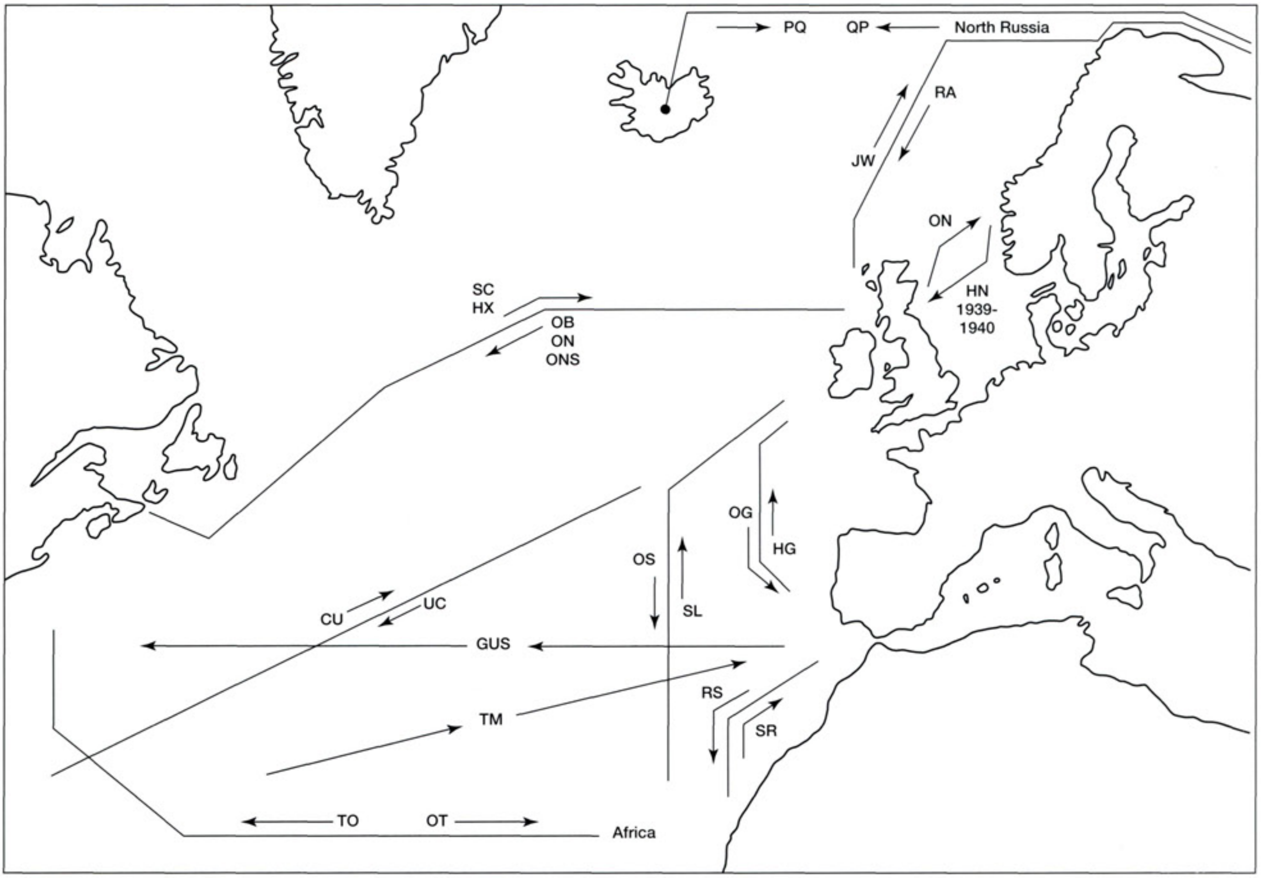
Abbreviations

BdU	Befehlshaber der Unterseeboote
FdU	Führer der Unterseeboote
Fgkpt	Fregattenkapitän
IvS	Ingenieurskantoor voor Scheepsbouw
Igewit	Ingenieurbüro für Wirtschaft und Technik GmbH
Kptlt	Kapitänleutnant
Kvkpt	Korvettenkapitän
ObltzS	Oberleutnant-zur-See
TEK	Torpedoerprobungskommando



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German Ranks and Equivalents

Matrose	Seaman
_—Gefreiter_*	Able Seaman
—Obergefreiter	Leading Seaman
—Hauptgefreiter	Leading Seaman after 4.5 years' service
—maat**	Petty Officer
Obermaat**	Chief Petty Officer
Bootsmann**	Boatswain
Oberbootsmann**	Chief Boatswain
Stabsoberbootsmann**	Senior Chief Boatswain

*The dashes were replaced with the man's trade. So, the full titles were things like Maschinengefreiter, Matrosenobergefreiter, Bootsmannmaat, Obermaschinenmaat, etc.

**These terms applied only to seamen. Trade names would have been used for other ranks:

Maschinist	_Obermaschinist_	_Stabsobermaschinist_
Funkmeister	_Oberfunkmeister_	_Stabsoberfunkmeister_
Steuermann	_Obersteuermann_	_Stabsobersteuermann_
Signalmeister	_Obersignalmeister_	_Stabsobersignalmeister_
Sanitätsfeldwebel	_Obersanitätsfeldwebel_	——
Feuerwerker	_Oberfeuerwerker_	——
Torpedomechaniker	_Obertorpedomechaniker_	_Stabsobertorpedomechaniker_

Leutnant-zur-See	Lieutenant (Junior)
Oberleutnant-zur-See	Lieutenant (Senior) (ObltzS)
Kapitänleutnant	Lieutenant Commander (Kptlt)
Korvettenkapitän	Commander (Kvkpt)
Fregattenkapitän	Captain (Junior) (Fgkpt)
Kapitän-zur-See	Captain
Konteadmiral	Rear Admiral
Vizeadmiral	Vice Admiral
Admiral	Admiral
Generaladmiral	(no British/US equivalent)
Grossadmiral	Admiral of the fleet

Notes:

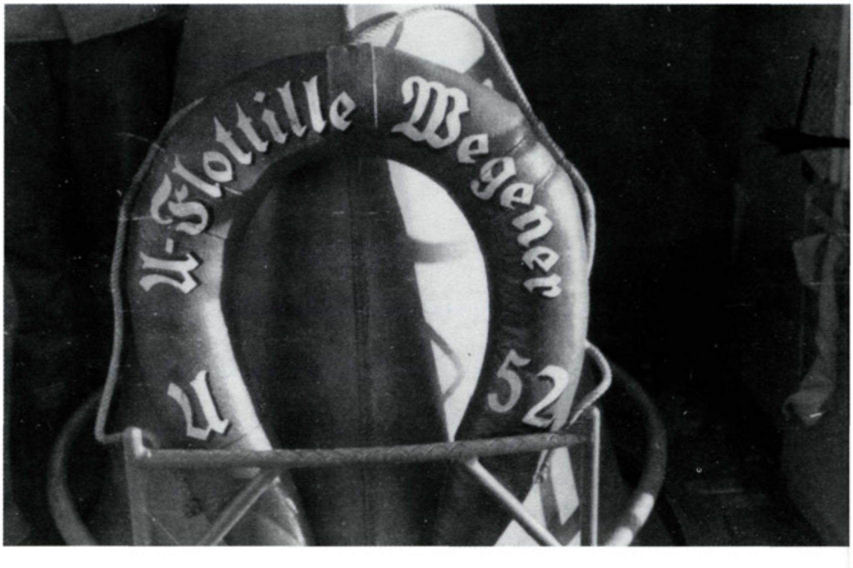
1 Engineering officers belonged to the Engineering Division and had the word _Ingenieur_ or _Ing._ after their rank.

2 The position _Kommodore_ (commodore) was used to describe a KptzS acting as an admiral

ORIGINS & HISTORY

Unterseebootsflottille 'Wegener', later known as *7. Unterseebootsflottille* (7th U-boat Flotilla), was formed in Kiel on 25 June 1938. Unlike other naval combat formations, German U-boat flotillas were administrative bodies, designed to provide logistical and administrative support for the boats which made up the flotilla. In the case of the 7th, these boats were the latest Type VIIB craft, the result of a decade of German research and design. The flotilla was named in commemoration of a German U-boat hero of World War 1, Kapitänleutnant (Kptlt) Bernd Wegener of SMS *U-27*, who sailed on 10 patrols, sinking 29 Allied ships, with a total tonnage of over 29,000 tons. His boat was sunk on 19 August 1915 by the British Q-ship HMS *Baralong*, in an incident which caused considerable controversy. Lieutenant Herbert, commander of the *Baralong*, ordered his men to open fire on the German survivors, killing Wegener and nine of his crew. Although prompted by similar incidents where U-boat crews gunned down Allied survivors, the summary action of Herbert prompted an escalation of cruelty on the high seas, and created a German martyr. The name of the flotilla was not the only link with the past. The brand new boats which comprised the 7th U-boat Flotilla were the result of nearly two decades of development, building on the lessons learned by the German Navy in World War 1.

On 11 November 1918, the horror of the Great War ended with the signing of an armistice. After four years of total war, the Imperial German Navy was in disarray, and its sailors in a state of mutiny. During the war, the German U-boat arm had demonstrated the efficiency of submarine warfare, and at times had threatened the survival of the Allied



Right: In the prewar years, U-boats carried life rings marked with the boat number and the name of its parent flotilla. The flotilla name was also worn on the sailors' cap bands.

Above: The commissioning ceremony of *U-51*, held on 6 August 1938. During this prewar period the boats carried their numbers on the side of their conning towers and on brass plaques attached to the U-boat's bow. The berth is the outer end of Tirpitz Mole in Kiel Naval Base

alliance. Approximately 150 small U-boats with a crew of fewer than 40 men per craft had succeeded in sinking 5,700 Allied or neutral merchant ships, with a combined tonnage of over 11 million tons. While the High Seas Fleet steamed into captivity in Scapa Flow, the surviving U-boat fleet sailed into British and French ports, surrendering both men and boats. Their campaign had been relatively successful, despite growing losses as Allied anti-submarine techniques improved. The effectiveness of the U-boat campaign had also been limited by the British use of mines along the German North Sea coast, barriers consisting of armed trawlers with hyrophone sets, destroyer screens in the English Channel, and above all, the successful development of a convoy system. In the immediate post-war years, financial constraints meant that the British were unable to apply the hard-won lessons of World War I by building a powerful anti-submarine fleet. Instead, it was the Germans who were more ready to learn from their experiences, and to develop a new and better U-boat arm.

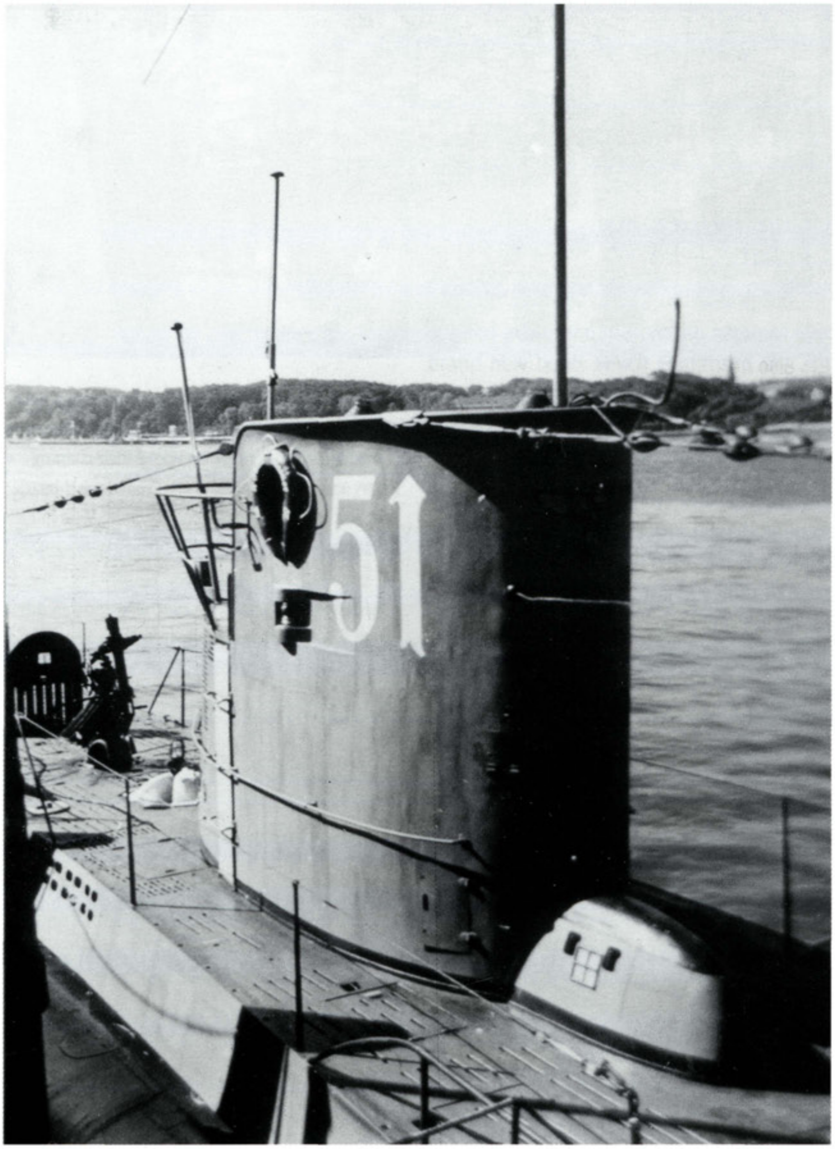
Under the terms of the Treaty of Versailles, Germany was allowed to build a small defensive navy, but this could not include submarines. As interned or captured submariners returned home to a post-war Germany, they brought their expertise with them; men like Oberleutnant-zur-See (ObltzS) Karl Dönitz, captured after his *UB-68* was sunk in the Mediterranean in October 1917.These men were now in charge of developing the German Reichsmarine, and to them a navy without a submarine arm was unthinkable.

In 1922 Admiral Behnke, Commander-in-Chief of the Reichsmarine, authorised the start of a secret project. In several shipyards across Germany work began on the design and construction of a new fleet of U-boats. Using the cover of the Krupp armaments company, a design team of 30 marine engineers worked on the project, in conjunction with the directors of three German shipbuilding companies, all of which would become major U-boat producers. In addition, a bogus company, known as Ingenieurskantoor voor Scheepsbouw (IvS) was set up in Holland, with its registered offices in the Hague. This was a front for the Reichsmarine, which used IvS to build U-boats for it. Doctor of Engineering Hans Techel, the former Director of Construction at the Germaniawerft shipyard in Kiel, was the director of the IvS, assisted by the former U-boat commander Ulrich Blum, who acted as the company's Technical Director. By 1925, naval funds were being secretly directed into IvS accounts and, as the designers completed their plans, the first prototype boats were commissioned. Three prototypes were developed, for a 250-ton, a 500-ton and a 750-ton boat. Three prototypes of the small boats (*vessikos*) and three of the medium craft (*vetehinens*) were built by the IvS in Finland during the late 1920s. A Spanish yard was used for the production of the largest prototype, named *E-1*.

To cover this work, IvS sought and was awarded genuine submarine-building contracts. The first from Turkey called for the production of two boats, but talks with the Spanish government led to an even better opportunity to build boats for the Spanish Navy, while developing the company's own prototypes in Spanish shipyards. This deal also allowed the company to 'draw on' the expertise of serving Reichsmarine officers, and permitted the establishment of an *Ausbildung* (Training) office within the German Navy, charged with assisting the training of Spanish crews. For the next decade, Finland, Turkey and Spain provided the cover for what was to become a fully-fledged German naval construction programme.

In 1928 a new cover firm was established. The Ingenieurbüro für Wirtschaft und Technik GmbH (Igewit) based in Berlin allowed the construction of boats in German yards, albeit ostensibly for the use of foreign clients. This gave German shipbuilders vital experience in the construction of modern submarines, and all stages of construction were secretly supervised by Reichsmarine engineers, and a caucus of 'retired' U-boat officers. Similar expertise was gained by the Navy itself, as a 'Torpedo and Radio' school was created, to train naval cadets in the theoretical techniques of U-boat warfare, while engineering cadets were trained in diesel propulsion systems. Practical training was provided by the 'testing' of the Finnish boats, and the Spanish submarine *E-1*, undergoing trials off Cadiz.

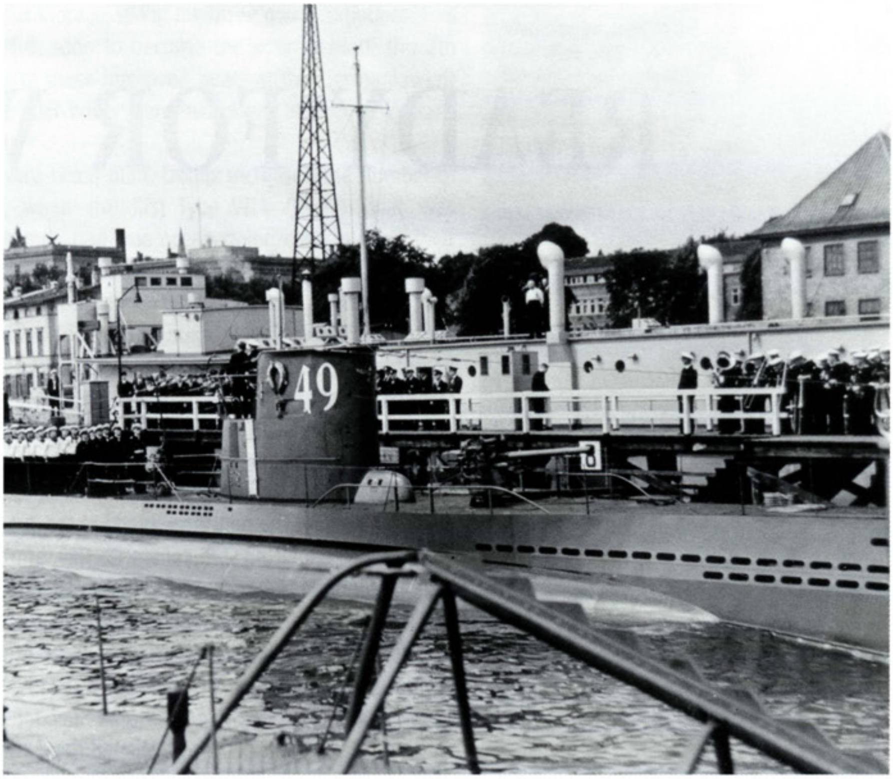
Below: Flotilla 'Wegener' was established in June 1938 to accommodate a new type of submarine: the Type VIIB. Although all of these looked fairly similar to the Type VIIA from the outside, there were a few major internal variations, especially in the propulsion systems. The flotilla became an experimental command to find the limits of the technology and to discover which firm produced the best components for this promising submarine class.



By the early 1930s the German Navy felt safe enough to increase its level of training, in direct violation of the terms of the Treaty of Versailles. A specialist U-boat school was established at Kiel in 1933, and its official title of 'Anti-Submarine Warfare School' fooled nobody. Within two years, it would be transformed into a fully-fledged training facility, producing hundreds of U-boat crewmen, from commanders to machinists.

By this stage, Adolf Hitler was in power, and a cornerstone of his policy was the reversal of the 'shame' of the Versailles agreement. The march towards war began. He demanded the relaxation of naval restrictions, prompting the Anglo-German naval agreement of 1935. Under its terms, Germany was allowed to maintain a fleet approximately 35 per cent of the size of the Royal Navy, and even more importantly, the Germans were allowed to develop a U-boat arm, although its size was limited to 45 per cent of the British submarine fleet. Diplomatic options were also put in place to increase this arm to match the British submarine fleet by mutual agreement, if concessions were made regarding the size of the German surface fleet. For the British, this incredible concession sealed the fate of thousands of merchant seamen. For the Germans, the gloves were off. At the treaty signing, Germany declared that it would never again resort to unrestricted submarine warfare. Less than two weeks later, it launched its first modern U-boat.

In 1935 the Reichsmarine was promptly re-named the Kriegsmarine (War Fleet), and a new U-boat arm was created, commanded by Konteradmiral Leopold Siemens. What had hitherto been a secretive development programme was transformed into a fully-fledged drive to create a powerful U-boat fleet. The basic designs needed were already in place. The previous year the prefabricated frames of 12 U-boats were constructed in the Ruhr, based on designs supplied by IvS. Brought to Kiel, together with torpedoes and engines, these boats were finished off at the Deutsche Werke yard, the first of them being launched on 15 June 1935. Designated *U-1*, this small coastal Type IIA U-boat commanded by Kptlt Klaus Ewerth was the first modern U-boat of the new Kriegsmarine. *U-2* to *U-6* followed soon afterwards, all 250-ton boats based on the *vessiko* design constructed for the Finnish Navy. Officially, these first boats were designated as part of a Unterseebootesschulflottille (U-boat Training Flotilla), attached to the U-boat School, (which was moved to Neustadt in May 1937). This was a mere decoy as, on 27 September 1935, U-boat Flotilla 'Weddingen' was formed at Kiel, comprising three of the latest Type IIB coastal U-boats, produced by Germaniawerft and Deutsche Werke. Fregattenkapitän (Fgkpt) Karl Dönitz was appointed as the flotilla's first commander, and served until the end of the year, until singled out for greater things. Although these first boats were used for schooling purposes, the crews knew this training was for a war that was becoming inevitable. The 'grey wolves' were gathering.



Above: *U-49* was commissioned almost exactly one year after *U-51* and only three weeks before the beginning of the war. This photograph shows that the 7th U-Flotilla did not have allocated spaces at the waterfront, but used whichever piers were empty at the time. This picture was taken not in the naval dockyard, but at the Blücher Pier, the traditional home of the sail training ship *Gorch Fock*. The building on the extreme left is of special interest. It is now occupied by the water police but in 1939 housed part of the naval administration. The low buildings in this picture have since been demolished and this part of the waterfront is now open to the public, providing splendid views of the busy Kiel Förde.

READY FOR WAR

Unterseebootsflottille 'Wegener' staff, Kiel 1938–39

Flotilla commander: Kvkpt Hans-Ernst Sobe
Adjutant: ObltzS Heinrich Hirsacker
Flotilla Administration Officer: Kptlt Fritz Schumann
2nd Administration Officer: LtzS Günter
Flotilla Engineering Officer: Kptlt Schmidt-Falbe
Chief Medical Officer: Marineoberstabsarzt Rundte

The first U-boat Flotillas were named rather than numbered, the titles commemorating U-boat 'aces' of World War 1. The 'Weddingen' (1st) Flotilla was therefore named after the legendary commander of SMS *U-9*, who sank three British armoured cruisers in September 1914. The new *U-9* was an improvement on its namesake, but it was still not an ocean-going submarine. The first three boats of the 1st Flotilla (*U-7, U-8* and *U-9*) were all Type IIB U-boats, displacing 275 tons, with the same power plant as the Type IIA boats in the Training Flotilla.

This first flotilla was commanded by Fgkpt Karl Dönitz, a loyal supporter of Adolf Hitler, a committed Nazi, and a heartfelt believer in the offensive capabilities of the U-boat. Promoted to Kapitän-zur-See in October 1935, Dönitz was able to draw on the best of the Navy's volunteers (*Freiwilliger zur Unterseebootwaffe*), and through the development of an arduous training regimen he developed these men into highly-skilled U-boat crews. Those who survived the training were considered members of an elite force, with a high morale and belief in their abilities which had not been seen in the German Navy since 1918.

On 1 January 1936 Dönitz became Führer der Unterseeboote (FdU), a post which gave him operational command of the entire U-boat fleet. Of course, in early 1936 this was very much a paper fleet, as only 12 boats were in service (six Type IIA and six Type IIB). Although no more Type IIA boats were planned, a further dozen Type IIB craft were in production, and would be commissioned before the year was out. Even more important, work had begun on a series of new ocean-going boats.

Although further Type II boats would be produced in small numbers until 1940, the Navy had moved on to the design of larger ocean-going boats, better equipped to wage an offensive U-boat campaign against Britain or France. Type III was a design for a motor-torpedo boat carrier, which was never developed beyond the drawing board. Likewise, designs for a series of U-boats classified as Types IV, V and VI were shelved in favour of a better, medium-sized design, whose plans had been developed during 1933–34. This was the Type VII U-boat, created by Dr Friedrich Schürer and Ministerial Counsellor Bröking, a craft which would define U-boat strategy during World War II, and which would become the mainstay of the 7th U-boat Flotilla. Larger, faster and more agile than the Type II boats, these were true ocean-going attack submarines. Each was designed to carry four bow torpedo tubes and one stern tube, with a total capacity of 11 torpedoes, double the armament of the earlier boats.

On 16 January 1935 work on other designs in the Germaniawerft yard was set aside in favour of the Type VII boats. The first was due for delivery within 18 months. In fact, ten Type VIIA boats were laid down in the spring of 1935, and the first was completed within a mere ten months. It was soon discovered that the only real flaw in the Type VIIA design was its limited fuel capacity. Consequently the design was modified to hold an additional 33 tons of diesel, giving the boats an additional range of some 2,500 miles, at a surface speed of 10 knots. Improvements were also made to the engine, making them slightly faster than their predecessors, and they had additional storage space for three more torpedoes. This improved design was dubbed the Type VIIB, soon to become the main boat of the 7th Flotilla. In 1937, work began on the first of these improved boats at the Germaniawerft yard in Kiel, and the following year, Type VIIB boats were laid down at Bremer Vulkan-Vegesacker Werft in Bremen.

While these new ocean-going boats were being built, Dönitz increased the number of men undergoing U-boat training and, when the first Type VIIA (*U-27*) boat was commissioned on 12 August 1936, these men had true ocean-going craft to hone their skills in. The (2nd) 'Saltzwedel' Flotilla was formed on 1 September 1936 (commanded by Fgkpt Scheer), providing an operational home for the new Type VIIA boats, augmenting the two Type IA boats (*U-26* and *U-27*) provided for training purposes. Unterseebootsflottille 'Weddingen' continued to rely on the small IIB, IIC and IID boats until after the outbreak of the war. Other flotillas followed in close succession. Unterseebootsflottille 'Lohs' (later known as 3rd U-boat Flotilla) was founded on 4 October 1937 (commanded by Kptlt Hans Eckermann), providing a home for the remaining Type IIB boats. Clearly, when the first Type VIIB U-boats were commissioned, they needed a flotilla to minister to the needs of the boats and their crews. Consequently, when the first of these new boats was commissioned as *U-45* at Kiel on 25 June 1938, Dönitz announced that a new U-boat flotilla would be created. That very day he formed Unterseebootsflottille 'Wegener', later known as the 7th U-boat Flotilla. Its first commander was Korvettenkapitän (Kvkpt) Hans-Ernst Sobe.

Born on 2 September 1904 in Zchorna, a village near Bautzen, Sobe was too young to see service in World War 1, but joined the Reichsmarine, and volunteered for U-boat service. On 12 September 1936 he was given command of one of the first Type VIIA boats, *U-34*. The skill he demonstrated in the preparation of this vessel for active service encouraged Dönitz to select him for a staff post. On 14 February 1938 he was posted to Dönitz's headquarters, where he helped lay the groundwork for the creation of the new flotilla. This involved selecting flotilla staff, supervising the completion of its boats, and grooming the crews who would man the new boats, the best, most modern attack U-boats in the Kriegsmarine.

Unterseebootsflottille 'Hundius' and Unterseebootsflottille 'Emsmann' were formed later in the year (and were later re-designated 6th and 5th U-boat Flotillas respectively). The 'Hundius' Flotilla consisted of Type IX boats, an improved version of the Type I U-boats (*U-37* to *U-44*), while the 'Emsmann' Flotilla operated Type IIC U-boats (*U-56* to *U-61*).

While the first U-boat flotillas were being formed, the world was threatened with war. In Spain, a military coup instigated by General Franco in July 1936 against the legitimate government had developed into a full-scale Civil War. While most of the Spanish Navy remained loyal to the Republican government, many of its officers sided with Franco's rebels. The Spanish submarine fleet of 12 boats included six 'Dutch-type' C-Class boats built during the 1920s, products of the IvS boat-building initiative. Franco's naval aide approached Kvkpt Wilhelm Canaris in an attempt to obtain naval assistance for the Nationalist (rebel) cause, but the plea was rejected at first by the Chief of Naval Command, Konteradmiral Günther Gusse. Instead it was the Italians who initially came to Franco's aid, providing the Nationalists with two submarines.

For Dönitz and his staff, however, the outbreak of the Spanish Civil War provided the Kriegsmarine with a heaven-sent opportunity. Not only could they provide support for a fellow Fascist leader, but they would also be able to provide wartime operational training for the eager submariners in Kiel. Adolf Hitler was of a like mind, and ordered Gusse to reverse his decision. The Kriegsmarine therefore offered to send two Type VII U-boats to Spain as part of a 'training exercise'. In fact, the intention was to operate covertly against the navy of the Spanish government. The crews were simply told they were going to Spain 'just to guard German interests'. The operation was called *Ausbildungsüben* (Exercise)

'Wegener' boats as at 3 September 1939

U-45 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 25 June 1938
Operational in flotilla: 25 June 1938
Commander: Kptlt Alexander Gelhaar
Operational patrols: 2
Allied vessels sunk: 2
Fate: Sunk on 14 October 1939 (no survivors)

U-51 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 6 August 1938
Operational in flotilla: 6 August 1938
First commander: Kptlt Ernst-Günther Heinicke
Subsequent commander: January 1940: Kptlt Dietrich Knorr
Operational patrols: 4
Allied vessels sunk: 6
Fate: Sunk on 20 August 1940 (no survivors)

U-46 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 2 November 1938
Operational in flotilla: 2 November 1938
First commander: Kptlt Herbert Sohler
Subsequent commander: May 1940–September 1941: OblzS, later Kptlt, Engelbert Endrass
Operational patrols: 13
Allied vessels sunk: 24
Fate: Transferred to 26th (Training) Flotilla on 1 September 1941; scuttled on 4 May 1945

U-47 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 17 December 1938
Operational in flotilla: 17 December 1938
Commander: Kptlt, later Kvkpt, Günther Prien
Operational patrols: 10
Allied vessels sunk: 31
Fate: Sunk on 7 March 1941 (no survivors)

U-52 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 4 February 1939
Operational in flotilla: 4 February 1939
First commander: Kptlt Wolfgang Barten
Subsequent commander: November 1939 until transfer: Kptlt Otto Salman
Operational patrols: 8
Allied vessels sunk: 13
Fate: Transferred to 26th (Training) Flotilla on 1 June 1941; stricken at Danzig in October 1943; scuttled on 3 May 1945

U-48 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 22 April 1939
Operational in flotilla: 22 April 1939
First commander: Kptlt Herbert Schultze
Subsequent commanders: May–September 1940: Kvkpt Hans Rudolf Rösing; to December 1940 Kptlt Heinrich Bleichrodt; till transfer OblzS Dieter Todenhagen and Kptlt Herbert Schultze
Operational patrols: 12
Allied vessels sunk: 52
Fate: Transferred to 26th (Training) Flotilla on 1 July 1941; stricken at Neustadt on 31 October 1943; scuttled on 3 May 1945

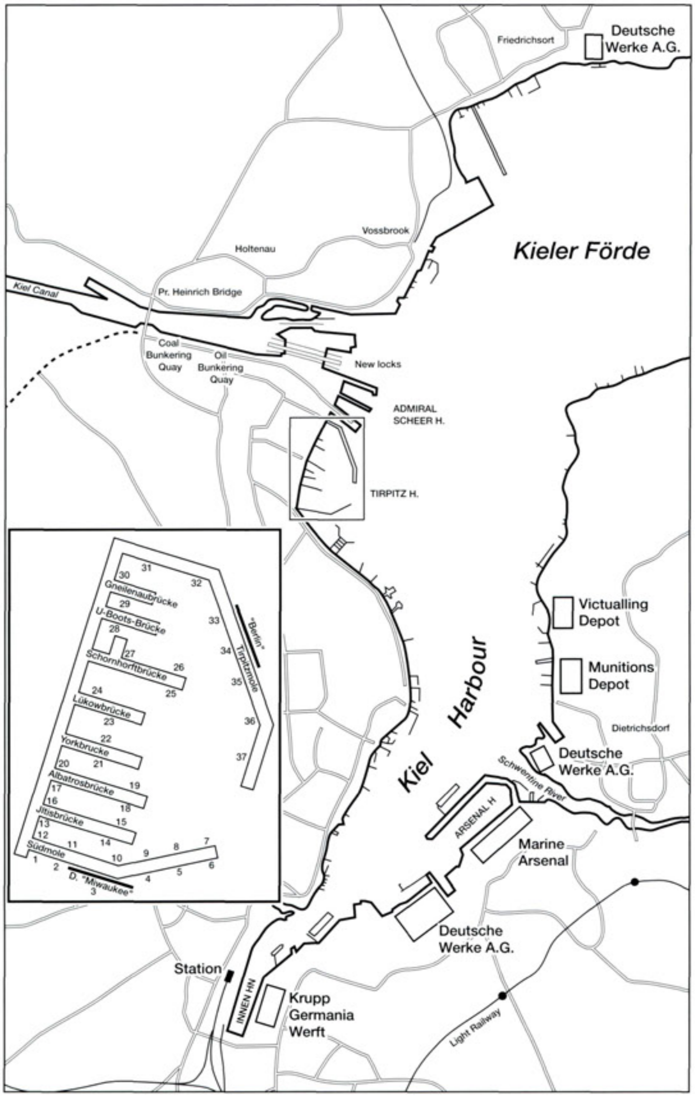
'Ursula', after Dönitz's daughter. *U-33* and *U-34* of the Saltzwedel Flotilla were sent to the Mediterranean, but were withdrawn following the torpedoing of a Spanish government cruiser by an Italian submarine. Fearing world censure, the German chiefs of staff ordered the return of the boats, a withdrawal which had not been effected when *U-34* torpedoed and sank a Spanish submarine off Malaga on 21 December 1936. This unsuspecting boat was the first victim of Dönitz's wolves. Following the Nyon Agreement of September 1937, German boats returned to the Mediterranean, taking part in an international blockade of Spain by 'non-interventionist' navies. This was a second chance of gaining experience in wartime conditions, and several future members of the 7th Flotilla participated in the venture, as members of the 'peacekeeping' force, including the future aces Prien and Kretschmer. Some 47 patrols were conducted by 15 U-boats in Spanish waters before the collapse of the Spanish government in April 1939, and the final victory of General Franco.

By September 1938 Unterseebootsflottille Wegener consisted of just two boats: *U-45*, commanded by Kptlt Alexander Gelhaar, and *U-51*, under the command of Kptlt Ernst-Günther Heinicke. The latter boat had only been commissioned on 6 August. In addition, two more boats were due to be commissioned within the next four months. With just two boats, the flotilla was far from being combat ready, despite the increasing emphasis placed by Dönitz on large and realistic exercises, held in the Baltic Sea. The Munich Crisis of 1938 almost led to war, and Kvkpt Sobe was ordered to place his two boats on full alert. Ready or not, the U-boat fleet was ordered to sea, even though Dönitz and his strategic planners were still completing their plans concerning how any future U-boat campaign against Britain and France would be fought. *U-45* and *U-51* were ordered to maintain patrol stations in the North Sea, waiting for any foray by the British Home Fleet. Although the crisis passed, Sobe and his two captains were well aware that war was simply a matter of time.

In the spring and summer of 1939, Kommodore Dönitz ordered that all operational flotillas would participate in a series of near-constant large scale exercises, designed to test the boats in near-combat conditions. For these exercises the flotilla was augmented by three new arrivals: *U-46* (Kptlt Herbert Sohler), *U-47* (Kptlt Günther Prien) and *U-48* (Kptlt Hans Herbert Schultze). This brought Sobe's force up to five boats, all modern ocean-going Type VIIB boats. Support for the flotilla was provided by two flotilla tenders: the *Begleitschiff* (support ship) *Hertha,* and the U-bootsbegleitschiff *Wilhelm Bauer.* Flotilla staff were quartered on the depot ship *Hamburg.*

The exercises these captains engaged in included attacks against enemy convoys, prototype *Rudeltaktik* (wolfpack) operations, and vital practice in communications, allowing staff to converge the U-boats on a target. One additional form of attack was practised on the express orders of Dönitz. Each boat could be converted to carry 12 mines, and commanders learned to place these in precise locations, both on the surface and when submerged. The intention was that when war was declared, a selected group of U-boats could seal off the entrances to Britain's major harbours with

Below: Kiel Harbour, with an inset showing the layout of the U-boat base on the southern side of the Kiel Canal entrance (see photo opposite).


Deutsche Werke A.G.
Friedrichsort
Kieler Förde
Vossbrook
Holtenau
Kiel Canal
Pr. Heinrich Bridge
Coal Bunkering Quay
Oil Bunkering Quay
New locks
ADMIRAL SCHEER H.
TIRPITZ H.
Victualling Depot
Munitions Depot
Dietrichsdorf
Deutsche Werke A.G.
Schwentine River
Kiel Harbour
ARSENAL H
Marine Arsenal
Deutsche Werke A.G.
Station
INNEN HH
Krupp Germania Werft
Light Railway
Gneisenaubrücke
U-Boots-Brücke
Schornhorftbrücke
Lükowbrücke
Yorkbrucke
Albatrosbrücke
Jltisbrücke
Südmole
D. "Miwaukee"
"Berlin"
Tirpitzmole
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minefields. The routine on *U-46* was broken for a month in May 1939 when Kptlt Sohler and his crew were selected to join *U-39* in a goodwill trip to Cueta in Spanish Morocco, an exercise in 'showing the flag', and impressing Germany's new-found Spanish ally.

During June 1939 *U-45, U-46, U-47* and *U-51* all took part in long-range patrols, allowing commanders to experience first-hand what conditions would be like in their future hunting grounds. After months of daily runs at targets and operations in the limited confines of the Baltic, this was the first real opportunity to test both men and their boats. July was spent conducting torpedo exercises in the Baltic, but all the crews knew that the real shooting would start at any time. This was followed by more mass manoeuvres, this time in the Atlantic. As Günther Prien recalled: 'We had excellent weather, clear summer days with a low swell, and starlit nights.' Operations in the North Sea took on a new urgency when Dönitz ordered his boats to take up their appointed stations, and remain on full alert. Prien recalled the moment on 3 September 1939 when he heard the news that his country was at war with Britain: 'I was standing on the tower with Endrass at about 10 o'clock on that September morning. Brisk nor-westerly winds were blowing, and the waves were capped with foam. The boat was running half speed and from the ship came the deep soothing hum of the engines. A voice cried up from below, "Sir, Sir", and was followed by the appearance of Hansel through the conning tower hatch. His face was pale and he stuttered breathlessly so that the words ran into each other, "Signal, Sir. War with England, Sir."' After confirming the news, Prien ordered *U-47* to head for her assigned wartime operating area. Prien and the future ace Endrass managed to exchange a few words. '"Well, Endrass, this is it," I said. "Well, then, let's do our best," he said bravely.' The flotilla was going to war.

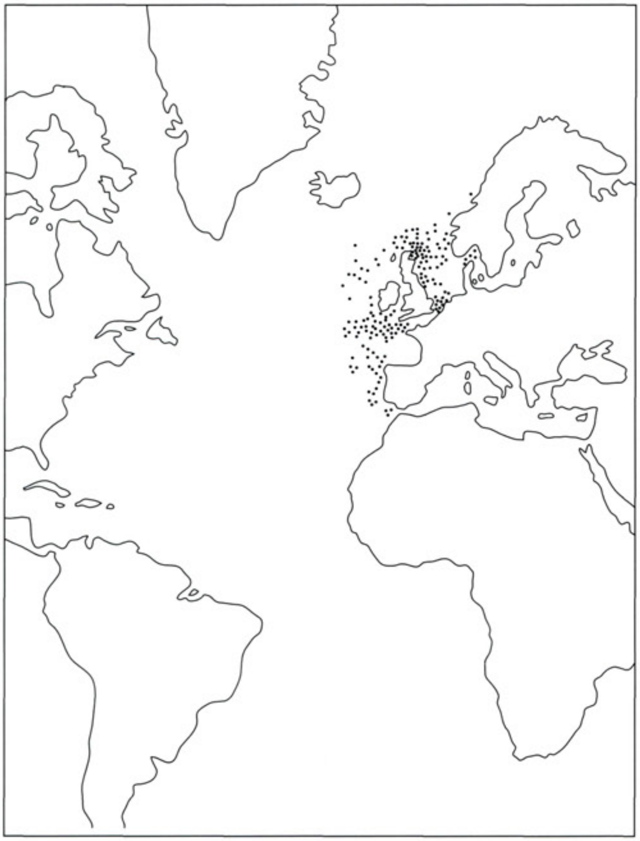
Below: An aerial photograph of Kiel. The photograph shows the naval harbour in Kiel looking down from south to north. This part of the harbour is shown in the inset on the map at left.

IN ACTION

On 19 August 1939 the U-boats of Unterseebootsflottille 'Wegener' slipped out of Kiel, heading for their patrol positions in the Western Approaches to the English Channel. All the U-boat men knew that this was no longer an exercise, and war was due to commence at any moment. *U-45, U-46, U-47, U-48* and *U-52* all took up position. The only boat which was omitted from the patrol was Kptlt Ernst-Günther Heinicke's boat, *U-51*, which was reserved for duties in the Baltic.

At dawn on Friday 1 September, the German Army invaded Poland. *U-51* and eight other boats of various squadrons were already deployed off the Polish coast, with orders to prevent any units of the Polish Navy from escaping to Britain, or to a neutral country. Two attacks on Polish submarines were unsuccessful when the torpedoes fired at them failed to detonate. Elsewhere in the cordon, three Polish destroyers managed to evade the ring of U-boats, and reach the safety of British ports. For Dönitz and his U-boats, the naval side of the Polish campaign was a disappointment, and presaged an even more dismal performance off Norway the following year. With hindsight, problems with torpedoes and the deployment of U-boats in a role for which they were unsuited was bound to lead to frustration.

Below: Allied shipping losses, from the start of the war until the fall of France, September 1939 to May 1940. Note how losses were concentrated in the North Sea and the Western Approaches.



On 3 September, all operational U-boats were sent a signal from the headquarters of the Kriegsmarine. It read: 'Great Britain and France have declared war on Germany. Battle Stations immediate in accordance with battle instructions for the navy already promulgated.'

Dönitz sent an additional signal a few minutes later: 'Battle instructions for the U-boat arm of the Navy are now in force. Troop ships and merchant ships carrying military equipment to be attacked in accordance with prize regulations of the Hague Convention. Enemy convoys to be attacked without warning only on condition that passenger liners carrying passengers are allowed to proceed in safety. These vessels are immune from attack even in convoy. Dönitz.'

Dönitz had 56 U-boats at his disposal, of which 48 were modern attack boats, and the remainder were the coastal boats which were retained for training fresh crews. Of these, 39 were in the Western Approaches area of the Atlantic or in the North Sea when the war with Britain and France was declared. This was hardly a powerful fleet capable of bringing the British to their knees, but it was a start. Dönitz and his captains were also constrained by the 'Cruiser Rules', which Dönitz's signal referred to. In short, it was deemed a breach of the Hague Convention to sink a non-belligerent vessel 'without having first placed passengers, crew and ship's papers in a place of safety'. Kptlt Fritz-Julius Lemp, the commander of *U-30*, ignored both these regulations and Dönitz's additional orders concerning the safe passage of liners. Patrolling to the north-east of *U-45* (the most northerly boat of Unterseebootsflottille 'Wegener'), and to the west of Ireland during the evening of 3 September, Lemp spotted an approaching merchant vessel, steaming a zig-zag course to deter submarine attack. He fired a salvo of torpedoes, one of which struck the vessel on the port side. She was the passenger liner *Athenia* (13,581 tons), carrying 1,103 civilian passengers to Canada. The liner sank with the loss of 112 lives, including 28 American citizens, and over a dozen children. Lemp surveyed the mayhem, then stole away into the darkness. This chilling demonstration of ruthlessness prompted Dönitz to issue orders preventing any further breach of the rules of war. This said, Lemp was awarded the Iron Cross on his return to Kiel.

By the time the signal reached Gelhaar (*U-45*), Sohler (*U-46*), Prien (*U-47*) and Barten (*U-52*), their boats were in position in a reverse L-shaped line, screening the approaches to the British Isles. To the north and south, boats from other flotillas completed the Atlantic blockade, which stretched from Gibraltar to the north of Scotland. Over the next few weeks the flotilla's boats achieved their first successes. Günther Prien in *U-47* sank three ships, with a combined tonnage of 8,270 tons. Herbert Schultze in *U-48* sank another three (displacing 14,777 tons), and Wolfgang Barten in *U-52* sank a fully-laden tanker (displacing 16,000 tons). All three boats occupied a patrol line stretching westwards from the Bay of Biscay, with Prien to the east, and Barten to the west. This group of three boats was recalled on 7 September, after almost three weeks at sea, while the others returned to Kiel on 16 September. Of these, *U-45* sank two freighters (19,000 tons), and Sohler in *U-46* sank one (displacing 7,000 tons). An additional boat, *U-53* (ObltzS Dietrich Knorr) was still undergoing training when the war broke out, but she hurried westwards to join the hunt, rounding the North of Scotland into the Atlantic during the first week of the war. She sank two British merchantmen off the west coast of Scotland with a total displacement of 14,000 tons. The first operational patrol of the flotilla's boats had been an unqualified success.

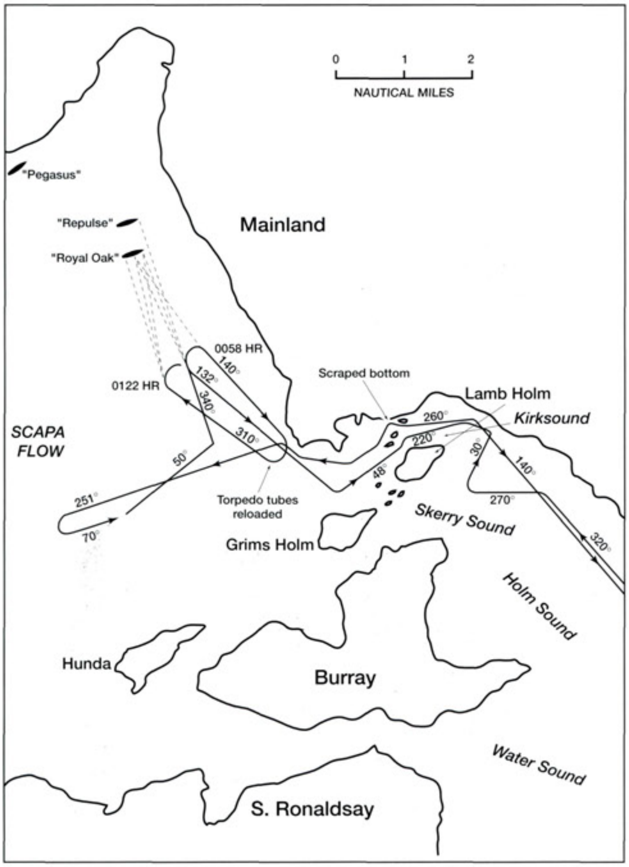
Within a month, the boats set out on another Atlantic patrol. Extracts from the log of Herbert Schultze's highly-successful *U-48* show what conditions were like on this second operational cruise. *U-48* left Tirpitz Quay in Kiel, passed through the canal and entered the North Sea. She rounded the north of Shetland, then headed south to her operational area off the north-west of Ireland. On 12 October her crew stopped a Norwegian freighter, but as it was a neutral ship it was allowed to continue on its way. Later the same day he stopped a 14,000-ton French tanker (*Emile Miguet*), ordered her crew to abandon ship, then sank her with a single torpedo. An escort came to her aid, and despite firing several torpedoes at her, *U-48* only achieved one possible hit. The problem with defective torpedoes would continue to plague the U-boat arm for another year. On 13 October a 5,000-ton British freighter (SS *Heronspool*) was torpedoed, and a 7,000-ton French merchantman (*Louisiane*) sunk with the boat's deck gun. Dawn brought a British destroyer, forcing Schultze and his crew to flee the scene. The following day a 3,600-ton collier (SS *Sneaton*) was sunk, followed by a 7,250-ton merchantman on

Above: Günther Prien of *U-47*, the hero of Scapa Flow and first naval Knight of the Iron Cross. It looks as if he is wearing the piston rings of an *Oberleutnant-zur-See* on his sleeves, although the wind deflector at the top of the conning tower suggests this photo was taken some time after the beginning of the war when he held the rank of *Kapitänleutnant*.

Reinforcements, September–December 1939

U-53 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 24 June 1939
Operational in flotilla: 3 October 1939
First commander: ObltzS Dietrich Knorr
Subsequent commander: January 1940: Kvkpt Harald Grosse
Operational patrols: 3
Allied vessels sunk: 7
Fate: Sunk on 23 February 1940 (no survivors)

U-49 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 12 August 1939
Operational in flotilla: 1 November 1939
Commander: Kptlt Kurt von Gossler
Operational patrols: 4
Allied vessels sunk: 1
Fate: Sunk on 15 April 1940 (41 survivors)



Above: On the night of 13/14 October 1939, Prien and *U-47* entered Scapa Flow. After discovering the main anchorage was empty, Prien turned north towards Scapa Bay. He came upon the battleship HMS *Royal Oak*, which he torpedoed and sank in two attacks, before escaping from Scapa Flow the way he had entered. Prien was convinced he had also hit the battlecruiser HMS *Repulse*, as shown in this reconstruction by his bridge crew. Prien was wrong, as the *Repulse* had sailed from Scapa Flow with the rest of the Home Fleet on the morning of 13 October. What Prien might have seen was the old seaplane tender HMS *Pegasus*, which was anchored to the north-west, but was not damaged in the attack. Prien's actions cost the lives of over 800 British sailors.

17 October (SS *Clan Chisholm*). An attack on a second freighter (the 8,000-ton SS *Sagaing*) was never confirmed, despite the claim by Schultze that he sank the vessel. *U-48* sighted a convoy soon after she began her homeward voyage, and survived a prolonged depth-charge attack. The convoy was shadowed for another day, but again *U-48* was driven away by the escorts. She returned to port on 25 October. This was the most successful patrol yet by a boat from the flotilla.

During the prewar exercises of 1938–39, the boats practised the formation of hunting packs, but it was always assumed that a flotilla commander on the spot would exercise command. Instead, it was discovered that it was easier to control the movements of several submarines by radio, from an operations room on shore. Before that took place, the Kriegsmarine tried an experiment, by gathering a wolfpack for operations in the Western Approaches. Kvkpt Werner Hartmann, the commander of the Unterseebootsflottille 'Hundius' was placed in command of the group, which was assembled at Wilhelmshaven. Originally, it was meant to have comprised *U-37* (Hartmann's flagship), *U-25*, *U-34*, *U-40*, *U-42*, then four boats of the Unterseebootsflottille 'Wegener': *U-45*, *U-46*, *U-47* and *U-48*. Before the group sailed, Günther Prien and *U-47* were withdrawn for a special mission. The rest left Wilhelmshaven and Kiel during early October, bound for their operational area in the Atlantic. Of these, *U-40* was sunk in the English Channel on 13 October, and *U-42* was lost the same day, depth-charged off the coast of Ireland. The following day, Unterseebootsflottille 'Wegener' sustained its first casualty. Kptlt Alexander Gelhaar and *U-45* had sailed from Kiel on 5 October, but on 14 October they were spotted by a Royal Navy destroyer group off the south-west coast of Ireland. Cornered, *U-45* was depth-charged by three British destroyers, and sank with all hands. For the remaining boats, attempts to control events from the chartroom of a U-boat proved futile, and the pack was dissolved. One of the problems was that the British Admiralty still allowed the majority of merchant vessels to sail independently rather than in convoy, therefore dissipating the effectiveness of a concentrated force of boats. For the rest of the year, the boats of the flotilla maintained independent patrols.

While this operation was being set up, Günther Prien was making his own piece of history. On 1 October he was presented with special orders, to penetrate the defences of the main British naval base at Scapa Flow, and to destroy a major warship of the British fleet. The aim was to provide a morale boost at home, and consternation in the British press. Aerial photographs had shown the whole British fleet lying at anchor. Prien worked on the plan, and *U-47* slipped out of Kiel on 8 October. By the evening of 12 October, *U-47* lay off the coast of Orkney. Prien decided to try to slip through Holm Sound, a small channel between the Orkney mainland and the island of Glims Holm. At one point the bridge crew found themselves illuminated by car headlights, but no alarm was sounded. By 01.00 on 14 October, *U-47* was safely inside the anchorage, which the lookouts found to be deserted. The fleet had sailed. Sailing north towards Scapa Bay, Prien spotted the silhouette of a battleship, which he identified as HMS *Royal Oak*. At a range of 3,000 yards Prien fired two torpedoes. One hit the battleship in the bow, but proved to be largely defective, and no alarm was sounded on board. A shot from the stern tube also proved to be a dud. Calmly Prien turned his boat around, reloaded, then fired another

Above right and Right: The only way to find the enemy was to scour the horizon. Each watch usually consisted of four men and one officer, although the 7th Flotilla boats were too small to carry the full complement to operate efficiently and the *Obersteuermann*, usually a warrant officer, took on this responsible role as well. Lookouts were usually provided with 7 x 50 binoculars. Commanders and duty officers often had slightly stronger 8 x 60 glasses.

spread of two torpedoes. At 01.16 a colossal explosion tore a hole in the *Royal Oak*, igniting the after magazine. Within four minutes the battleship had turned turtle and sunk, taking over 800 men down with her. Prien and his men escaped from Scapa Flow, despite claims by the Royal Navy that the attacker had been sunk. The following day, members of *U-47*'s crew painted a charging bull on the side of the boat's conning tower, a symbol which would ultimately be adopted as the emblem for the entire 7th U-boat Flotilla. Prien was duly lionised as 'the Bull of Scapa Flow', and received a hero's welcome in Germany. For the British, the loss prompted the temporary abandonment of Scapa Flow as a base, until security measures could be introduced which would prevent any further incursions.

By the end of the year, Dönitz and his men were keen to abandon the restrictive 'Cruiser Rules'. For Dönitz, this was a war to the finish, and it would never be won if the U-boats were unable to attack without revealing their presence first. Consequently he issued Standing Order No 154 on 4 October 1939, which changed the whole nature of the U-boat war:

'Rescue no-one and take no-one with you. Have no care for the ship's boats. Weather conditions or the proximity of land are of no account.

'Care only for your own boat, and strive to achieve the next success as soon as possible. We must be hard in this war. The enemy started the war in order to destroy us, therefore nothing else matters.'

Although there were not yet enough U-boats on patrol at any one time for Dönitz to create real wolf packs, he was keen to make maximum use of the boats he had available. The era of unrestricted U-boat warfare had begun.

While these patrols continued, administrative changes were being made. In late 1939 the U-boat arm was divided into two commands: the Baltic Command based in Kiel, and the North Sea Command, with its headquarters in Wilhelmshaven. Unterseebootsflottille 'Wegener' was attached to the Baltic Command. Dönitz was promoted to Befelshaber der Unterseeboote (BdU, commander of the U-boats), while an operations department (BdU Ops) and an administration office (BdU Org) assisted the commander in the running of the fleet. On 1 January 1940 the name of the flotilla was officially changed, becoming *7. Unterseebootsflottille*, and the base in Kiel was now shared by the 1st Flotilla (formerly 'Weddingen') and 2nd Flotilla (a new formation, which combined boats from the 'Hundius' and 'Saltzwedel' Flotillas). The change of name also brought a change of flotilla commander. Hans-Ernst Sobe moved to headquarters, and was replaced by Kvkpt Hans-Rudolf Rösing, who had previously commanded Unterseebootsflottille 'Emsmann'. A fresh influx of three Type VIIB boats and a former Turkish submarine brought the flotilla strength up to 11 U-boats.

While Atlantic U-boat operations continued into the spring of 1940, naval operations generally were dominated by the invasion

Reinforcements, January 1940

U-50 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 12 December 1939
Operational in flotilla: 1 January 1940
Commander: Kptlt Max-Hermann Bauer
Operational patrols: 2
Allied vessels sunk: 4
Fate: Sunk on 6 April 1940 (no survivors)

U-54 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 23 September 1939
Operational in flotilla: 1 January 1940
First commander: Kptlt Georg-Heinz Michel
Subsequent commander: December 1939: Günther Kutschmann
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on or soon after 20 February 1940 (no survivors)

U-55 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 21 November 1939
Operational in flotilla: 1 January 1940
Commander: Kptlt Werner Heidel
Operational patrols: 1
Allied vessels sunk: 6
Fate: Sunk on 30 January 1940 (41 survivors)

U-A (ex-Turkish Batiray)
Builder: Germaniawerft, Kiel
Commissioned: 20 September 1939
Operational in flotilla: 1 January 1940
First commander: Kptlt Hans Cohausz
Subsequent commanders: November 1940 – January 1942: Kvkpt Hans Eckermann; February–May 1942: Kvkpt Hans Cohausz; May–August 1942: ObltzS Ebe Schnoor
Operational patrols: 9
Allied vessels sunk: 7
Fate: Transferred to the U-boat School, Gotenhafen, 1 August 1942; scuttled on 3 May 1945

Right: The majority of sinking ships photographed from U-boats were taken during the early part of the war when Prize Ordinance prohibited surprise attacks and night attacks had not yet become the order of the day. Some ships went down very quickly, but others remained stubbornly afloat and it was not too uncommon to encounter empty wrecks refusing to sink. The top picture shows part of a tanker spotted by *U-48*, drifting abandoned.

of Norway, an operation code-named *Weserübung* (Exercise 'Weser') which achieved near-complete surprise in April 1940. Some 36 U-boats were earmarked to support the venture, including *U-46, U-47, U-48, U-49, U-51* and *U-52*.

The performance of the U-boats in the Norway campaign was an almost complete failure, largely due to faulty torpedoes. On 10 April, for example, *U-48* torpedoed the heavy cruisers HMS *Cumberland* and HMS *York*, but the torpedoes either missed, exploded prematurely or failed to explode on contact. On the same day *U-51* failed to sink a destroyer when her torpedo spread all exploded before contact. Worse still, Herbert Sohler in *U-46* worked out a firing solution on the battleship HMS *Warspite*, but again, his torpedoes failed, and he temporarily ran aground during the subsequent manoeuvring. On 16 April Günther Prien in *U-47* also failed to sink the *Warspite*. The result was a disaster for the Germans at Narvik, where Royal Naval destroyers supported by the veteran battleship sank ten German destroyers in the fjord.

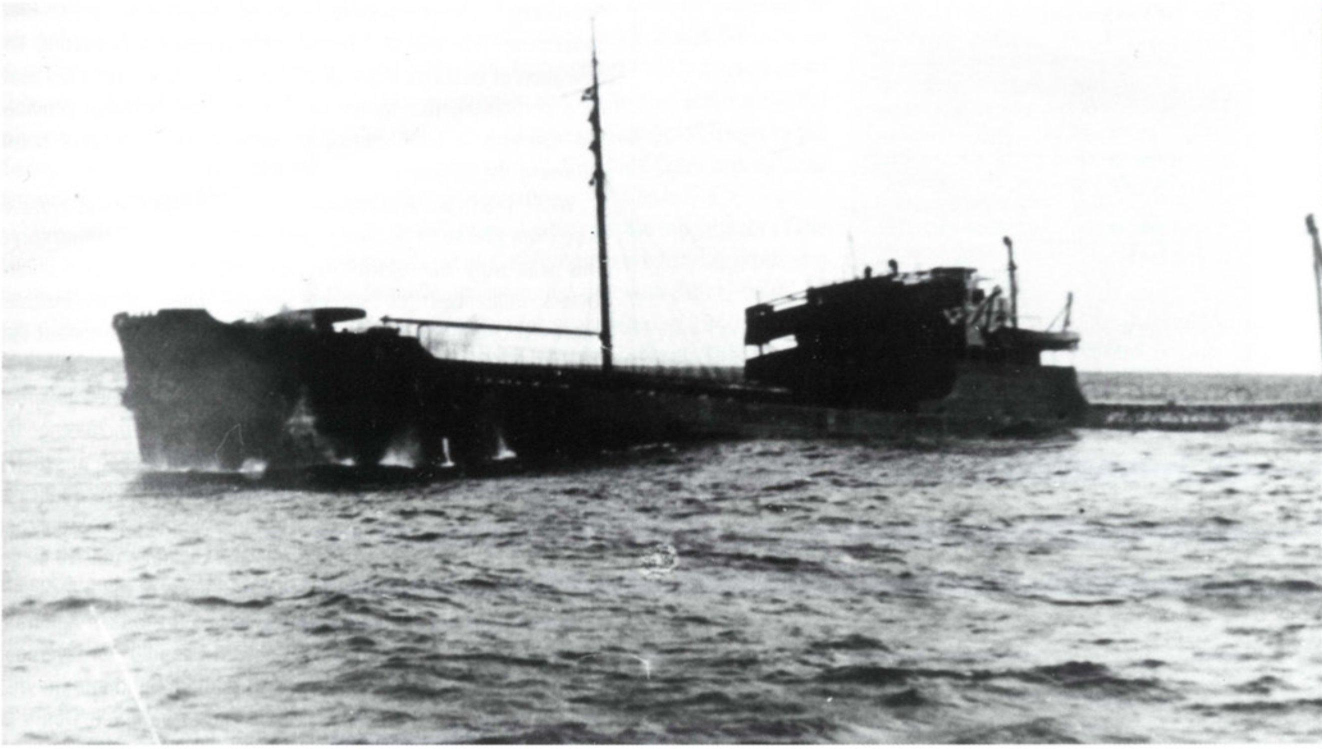
For a torpedo to work, it has to explode on contact, or as it runs underneath the keel of an enemy ship. In the German 'magnetic pistol' design, the magnetic 'signature' of the hull triggered the mechanism, and detonated the torpedo. This was not happening, nor were the less-sophisticated contact mechanisms fitted to other types of German torpedo working correctly. The failures off Norway had led to a crisis, and morale plummeted, as crews risked their lives, but lacked the tools to inflict damage on the enemy. As Dönitz put it: 'I do not believe that ever in the history of war have men been sent against the enemy with such useless weapons.' These problems continued in part until 1942, when it was found that a leaky balance chamber caused the torpedo to run at greater depths than intended, making the ignition systems ineffective. Scientists duly rectified the problem.

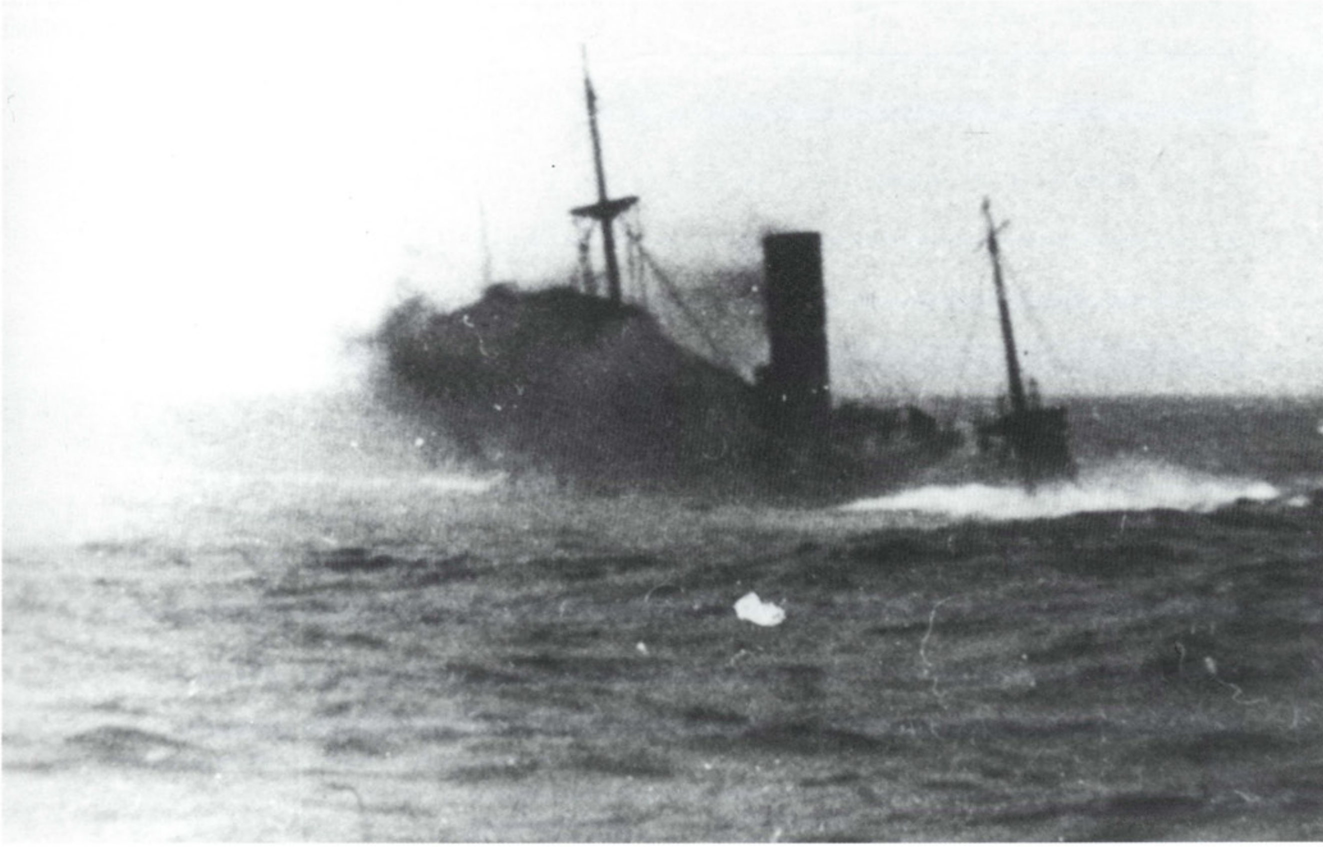
THE 'HAPPY TIME': MAY TO DECEMBER 1940

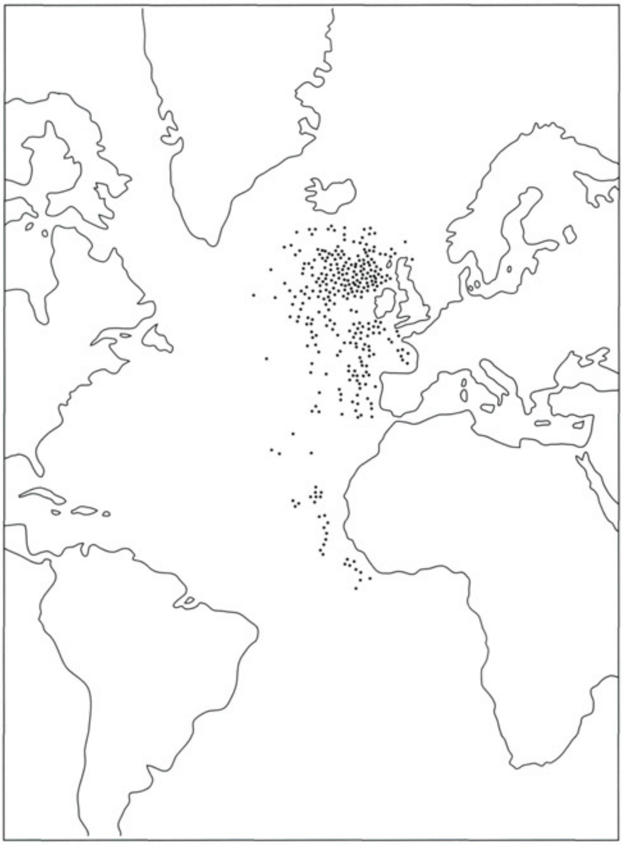
Up to May 1940 the British seemed to be holding their own but within weeks the whole strategic situation was turned on its head. The invasion of France in May produced little immediate benefit for the Kriegsmarine until after the Germans reached the sea. With the British army isolated at Dunkirk, the Admiralty sent anything that could float to evacuate the troops, and to cover the operation. The immediate effect was that convoys were stripped of their escorts in home waters, leaving the merchantmen virtually defenceless. The British were seriously short of escorts, a shortage compounded by losses incurred off Norway and Dunkirk, and on the need to provide escorts for Mediterranean convoys after Italy joined the war and France surrendered in June. In addition, whole flotillas of destroyers were kept in home waters, for use against any German amphibious invasion.

The U-boats made full use of this tactical advantage. Several 7th Flotilla boats operating off Cape Finisterre sank a combined total of over 150,000 tons in a two month period. In particular, *U-101* (Kptlt Frauenheim) sank seven ships, as did Kvkpt Rösing in *U-48*. Other boats were almost as successful; *U-43* and *U-29* both sank four merchantmen, while Prien's former deputy ObltzS Endrass in *U-46* sank five freighters. On 6 June Endrass sank the auxiliary cruiser HMS *Carinthia*, while a week later *U-A* sunk another armed merchant escort, HMS *Andania*.

The second benefit of the fall of France was even more tangible. The Kriegsmarine was able to take over bases along the Atlantic coast, therefore saving transit time to and from the hunting grounds and providing extensive dock facilities. The acquisition of Brest, Lorient, Saint-Nazaire, La Pallice and La Rochelle in June 1940 allowed Dönitz to extend the range of his operations into the central and even the western Atlantic Ocean. It also presented Dönitz with the opportunity of long-range aerial reconnaissance of the Western







Approaches, and encouraged him to re-examine his theories concerning the use of hunting groups. By co-ordinating the operation of boats by radio, Dönitz was able to vector in his boats on a particularly rich target. In short, the fall of France provided the German U-boat campaign with a much-needed boost, following the failures off Norway.

While plans were made to relocate the 7th U-boat Flotilla's base from Kiel to St Nazaire, the U-boats went on a killing spree. This was truly *die Glückliche Zeit* (the 'Happy Time'). Several factors influenced the success of the boats. These included improved communications, and better staffing which meant that Dönitz was better able to place his boats where they would be most effective. Experiments with wolfpack attacks led to group efforts being made against several convoys, increasing the experience of the U-boat commanders in co-operation at sea. The shortage of Allied escorts also encouraged the more audacious U-boat commanders to attack with more vigour than usual, and the gap between defensive measures and U-boat offensive tactics was for the moment heavily weighed in favour of the attackers.

The danger of air attack had also forced the British Admiralty to re-route convoys from the English Channel to Liverpool, meaning that most ships had to pass around Ireland into the Irish Sea, creating two bottlenecks. This success prompted Dönitz to declare unrestricted U-boat warfare as far west as Longitude 20° West, giving the U-boats more room to manoeuvre, away from the prying eyes of most airborne coastal patrols. An additional

help was the ineffective tactics used by the British escorts, who frittered away useful assets in the formation of anti-submarine 'hunter killer' groups, when it was the convoys that attracted the U-boats, and needed the protection. These groups rarely tracked down U-boats in transit, and when they did, poor electronics and ineffective anti-submarine weapons meant that the British had little real chance of causing significant losses to the German boats. When real wolfpack attacks began in earnest, the Royal Navy was virtually powerless to prevent the mounting losses of merchantmen.

The only thing standing between Britain and total disaster was the inadequacy of the German ship-building industry. The shipyards were simply not geared up to producing boats fast enough for the needs of the fleet. Dönitz estimated that with 300 U-boats, he could 'isolate and strangle' Britain, and force her to sue for peace. During 1940 he never had more than 67 boats (including training boats) at his disposal. The German commander may well have been right. Considering the losses inflicted by the few boats which were available, a larger U-boat fleet could well have changed history. U-boat strength was no greater than at the beginning of the war, and there are never more than 15 boats on patrol at any one time during late 1940. Despite this, this handful of boats accounted for most of the 315 ships of 1,659,000 tons lost in the Atlantic during 1940. Even more alarming for the British, while many of these were merchantmen sailing independently, a growing number of losses were coming from escorted convoys, where U-boats attacking on the surface at night were hard to detect, and faster than many of the escorts. One particularly appalling loss was the liner *Arandora Star* (15,000 tons), torpedoed by Prien on 2 July 1940 as she steamed from Britain to Canada. On board she carried over 1,000 German refugees, rounded up by a suspicious British government and sent overseas at the height of the U-boat war. Many of them were Jewish, who had fled to Britain to avoid persecution, only to meet a death as senseless as any meted out to their co-religionists who remained in Germany.

Reinforcements, Spring/Summer 1940

U-101 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 11 March 1940
Operational in flotilla: 1 April 1940
First commander: Kptlt Fritz Frauenheim
Subsequent commanders: November 1940 – December 1941: Kptlt Ernst Mangersen; January–February 1942: ObltzS Karl-Heinz Marbach; February 1942 until transfer: Kptlt Friedrich Bothe
Operational patrols: 10
Allied vessels sunk: 23
Fate: Transferred to 26th (Training) Flotilla on 1 March 1942; stricken at Neustadt on 21 October 1943; scuttled on 3 May 1945

U-102 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 27 April 1940
Operational in flotilla: 1 June 1940
Commander: Kptlt Harro von Klot-Heydenfeldt
Operational patrols: 1
Allied vessels sunk: 2
Fate: Sunk on 1 July 1940 (no survivors)

U-99 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 18 April 1940
Operational in flotilla: 1 July 1940
Commander: Kptlt Otto Kretschmer
Operational patrols: 8
Allied vessels sunk: 39
Fate: Sunk on 17 March 1941 (40 survivors)

U-100 (Type VIIB)
Builder: Germaniawerft, Kiel
Commissioned: 30 May 1940
Operational in flotilla: 1 August 1940
Commander: Kptlt Joachim Schepke
Operational patrols: 6
Allied vessels sunk: 26
Fate: Sunk on 17 March 1941 (6 survivors)

Above left: Allied shipping losses, from the fall of France until the end of the 'Happy Time', June 1940 to March 1941. This reflected the period when wolfpack tactics were introduced in earnest.

Far left: Boats of the 7th Flotilla were originally equipped with an 88mm quick-firing deck gun. The ammunition for this was stored in a magazine under the radio room and had to be manhandled through a narrow hatch to the central control room, up the ladder to the top of the conning tower, down the outside and then carried along a narrow, slippery deck. This shows one of the rounds being withdrawn from its water and pressure resistant storage container.

Left: Aiming the heavy gun required great skill with two men looking through the same gun sight as seen here. Both operated large and cumbersome hand wheels, one for rotating and the other for elevating the gun.

Reinforcements, late 1940

U-93 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 30 June 1940
Operational in flotilla: 1 October 1940
First commander: Kptlt Claus Korth
Subsequent commander: October 1941: Kptlt Horst Elfe
Operational patrols: 7
Allied vessels sunk: 8
Fate: Sunk on 15 January 1942 (40 survivors)

U-94 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 10 August 1940
Operational in flotilla: 1 November 1940
First commander: Kptlt Herbert Kuppisch
Subsequent commander: August 1941: Kptlt Otto Ites
Operational patrols: 10
Allied vessels sunk: 25
Fate: Sunk on 28 August 1942 (26 survivors)

U-95 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 31 August 1940
Operational in flotilla: 1 November 1940
Commander: Kptlt Gerd Schreiber
Operational patrols: 7
Allied vessels sunk: 7
Fate: Sunk on 28 November 1941 (12 survivors)

U-96 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 14 September 1940
Operational in flotilla: 1 December 1940
First commander: Kptlt Heinrich Lehmann-Willenbrock
Subsequent commander: March 1942 until transfer: Kptlt Hans-Jürgen Hellriegel
Operational patrols: 11
Allied vessels sunk: 28
Fate: Transferred to 24th (Training) Flotilla on 1 April 1943; sunk on 30 March 1945 (no casualties)

By September 1940 the 7th U-boat Flotilla had grown to just eight boats. On 20 August *U-51* (Kptlt Dietrich Knorr) was torpedoed on the surface by a British submarine in the Bay of Biscay (HMS *Cachalot*), and went down with all hands. This was the eighth loss to the flotilla in a year of constant patrolling. *U-55* was depth-charged in January 1940, *U-53* and *U-54* were sunk within a week of each other in February, and then *U-49* and *U-50* were lost during or immediately after the Norwegian campaign. Finally, *U-102* was sunk by a British destroyer off Ireland in July.

In August *U-100* (Kptlt Joachim Schepke) completed her training, the fourth boat to join the flotilla since January 1940, bringing the number of flotilla boats back to just over its operational strength at the start of the war. These new boats would play an important part in the second attempt by Dönitz to use wolfpacks.

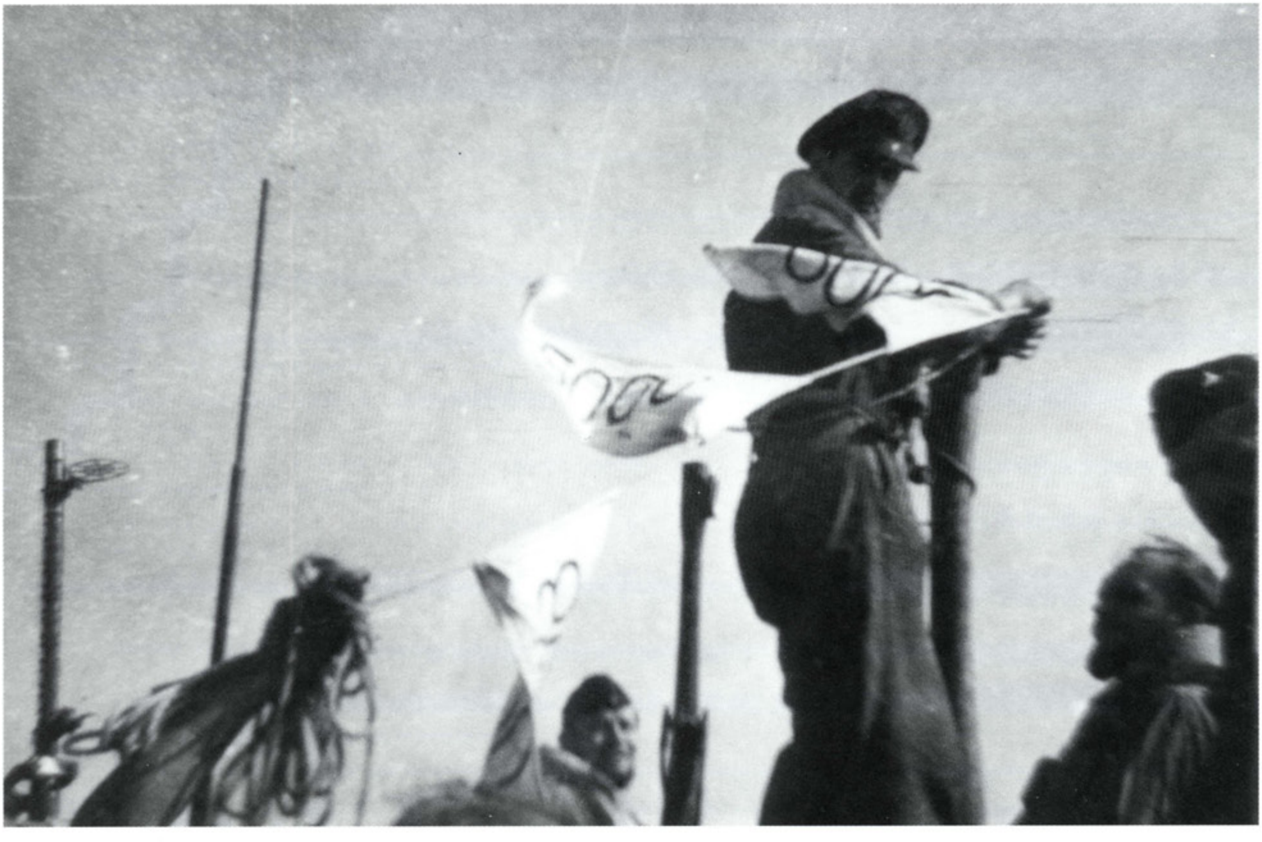
The first successful group attack by nine boats took place on 2 September 1940, against convoy SC.2. Prien (*U-47*), Kretschmer (*U-99*) and Frauenheim (*U-101*) all participated in the attack, sinking five ships. An even greater success was achieved towards the end of the month against convoy HX.72. Eleven out of 40 merchantmen were sunk during the attack by nine boats, which included *U-46*, *U-47*, *U-48*, *U-99* and the newly-arrived *U-100*. Prien and Kretschmer both sank two of the vessels, while Kptlt Bleichrodt, the new commander of *U-48*, added the sloop HMS *Dundee* to his tally. The skill of Joachim Shepke in *U-100* was also amply demonstrated in this, his first major operation. He sank seven merchantmen in one night, with a combined displacement of over 50,000 tons. Schepke repeated the performance in November, when he participated in an attack on convoy SC.11 off the north-west coast of Ireland. Of the 15 merchant ships sunk in the attack, seven were claimed by Schepke in *U-100*. Allied losses were fast reaching a critical level, while the convoy system was seriously hampered by lack of escorts. U-boats were ranging further west than ever before, as far as the coast of Newfoundland, meaning there were no longer any safe areas for the Atlantic convoys.

By October the latest Type VIIC U-boats had begun to enter operational service. Slightly larger and heavier than the Type VIIB boats already used by the 7th U-boat Flotilla, they contained several minor design improvements over the earlier boats, making them more mechanically reliable. Operationally, there was little difference between the two types. Four Type VIIC boats (*U-93* to *U-96*) entered the flotilla in the last three months of 1940. Of these, *U-94* (commanded by the resourceful Kptlt Herbert Kuppisch) participated in the last wolfpack attack of the year, made against convoy SC.13 in early December. By the year's end, the U-boats had sunk a total of 3.4 million tons of shipping, with an average of over 380,000 tons per month. For the British, these losses were not sustainable. Dönitz and his boats were winning the war.

Right: The only time when U-boat men themselves had time to take snapshots was when there was nothing going on – this means that there are a lot of pictures of men lounging on deck and the majority of action shots were taken by a few war correspondents. This photograph clearly shows that no one on a U-boat cared a damn what the men wore as long as they did their duty properly.

Left: The torpedo aimer with special binoculars clipped in position. In early vessels it was necessary to aim the entire boat at the target, but angle deflectors were later fitted to make shooting easier.

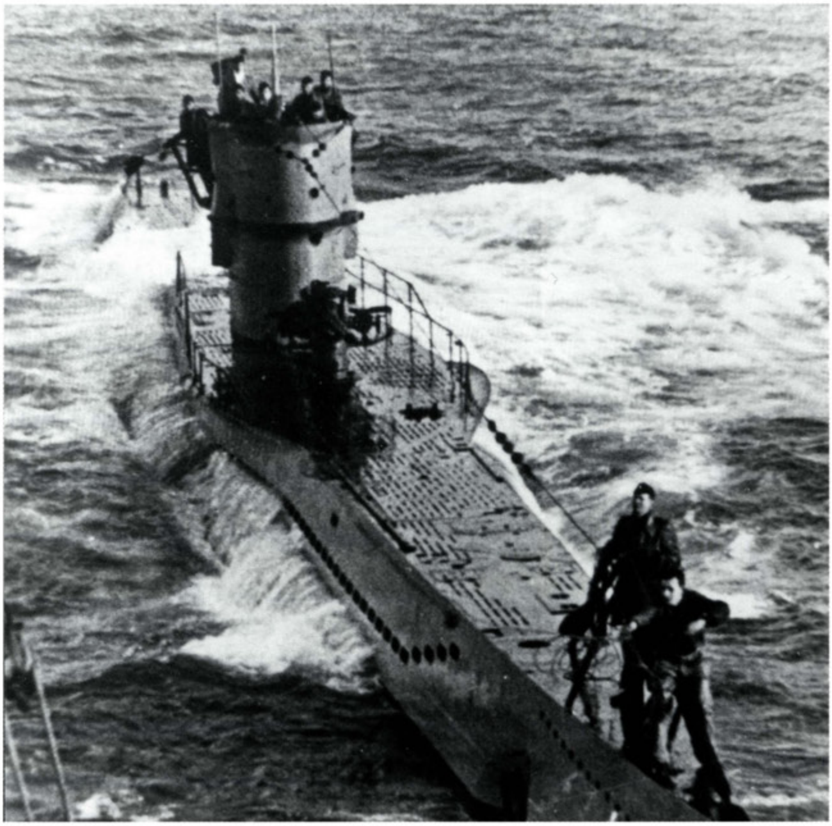
Below: Success pennants being attached to the sky or navigation periscope. The smaller-headed lens of the attack periscope can be seen to the man's left and a raised extending rod aerial can be seen by the rope at bottom left of the photograph. At the extreme left the barrel of a machine gun, with its sight clipped in position, pokes skyward suggesting this photo was taken later on in the war when aircraft became a greater threat.

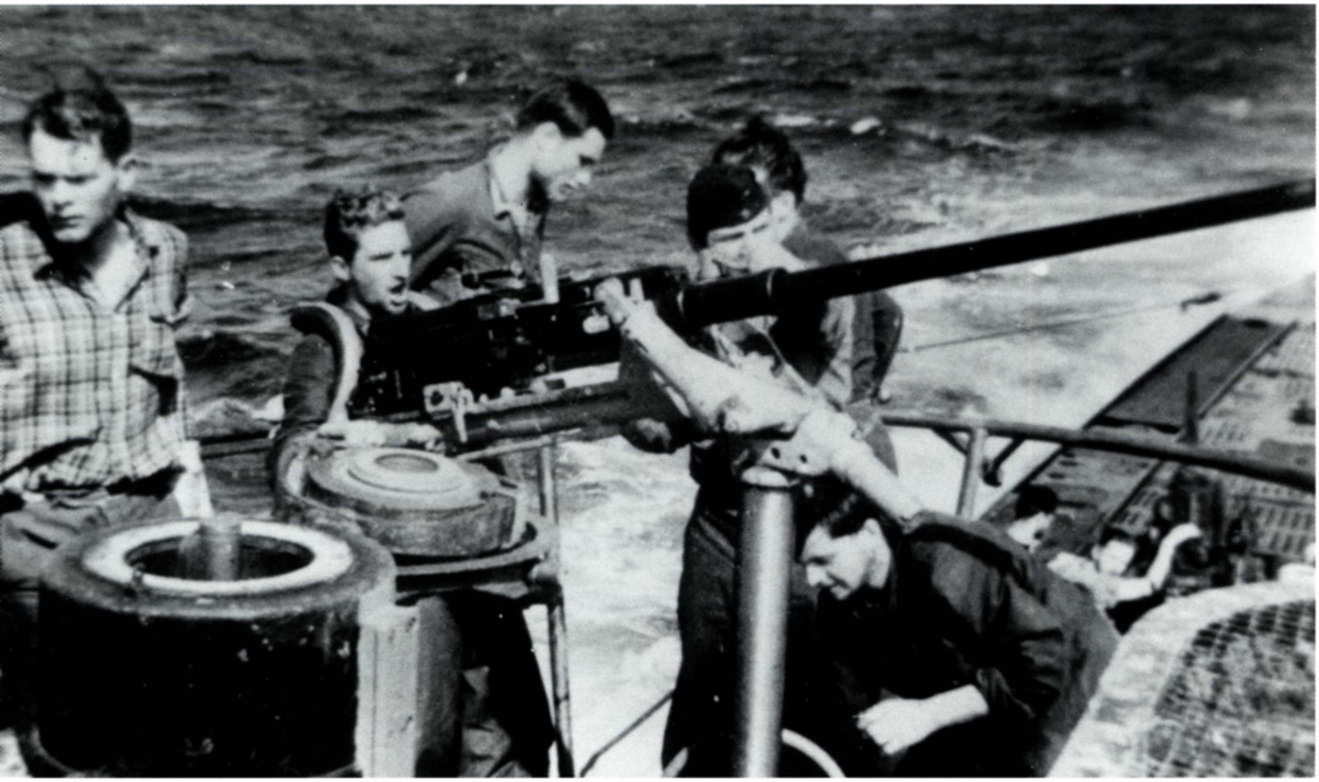


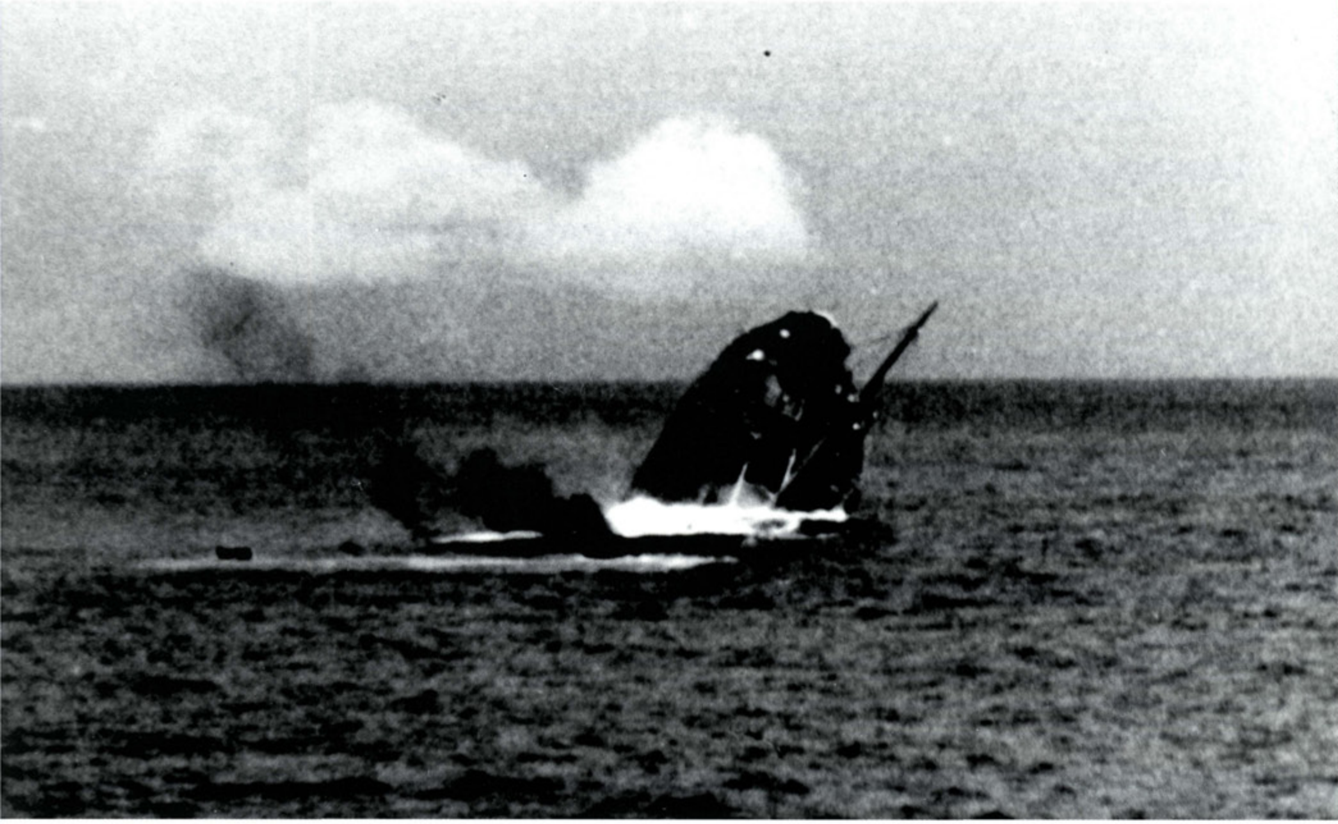
Right: *U–99* under Kptlt Otto Kretschmer, the highest scoring U-boat commander of World War II. This was one of the last Type VIIB boats to be launched early in 1940 at a time when the first VIIC versions were already lying on the slips. Water can be seen pouring out of the free-flooding space between the upper deck and the pressure hull, which is roughly level with the surface of the water.

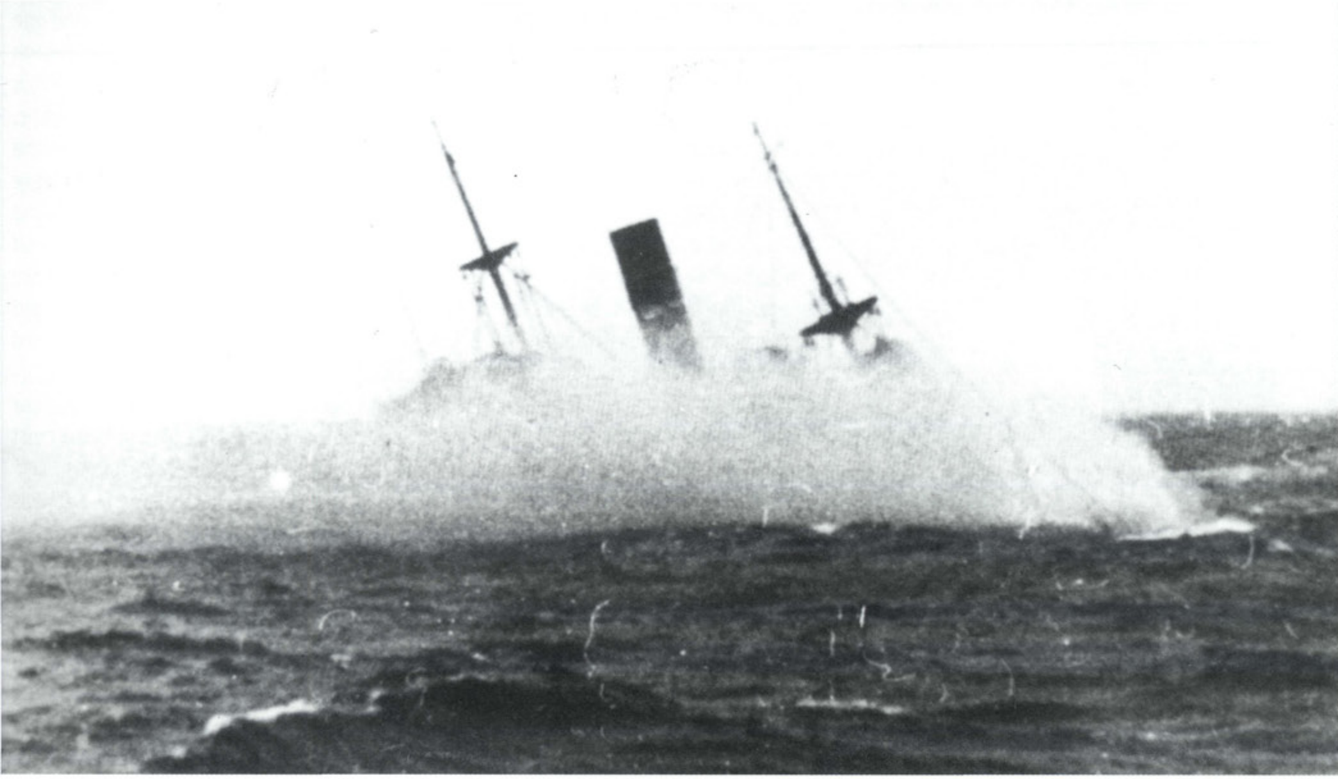
Below: This shows the early wartime 20mm anti-aircraft gun in action. Fired from the shoulder without having to turn cumbersome hand wheels meant it was relatively easy to aim, although its fire power was not strong enough to deter large, fast-flying aircraft. The top of the attack periscope can be seen in the foreground with a magnetic sighting compass behind.

Far right, Above and Below: The horrific side of war. Glory on one side meant death to the other and U-boats were sent out to sink ships. The one advantage with this was that for most of the time U-boat men were far enough away not hear the cries of their victims as they drowned.









THE LOSS OF THE ACES: JANUARY TO JUNE 1941

During the first months of 1941, the wolfpack system continued to develop, but a gradual trend began to emerge. Although the bald statistics of tonnages sunk remained high, the number of ships being sunk by each operational boat began to decline. During January and February, this was partly due to appalling weather, as storms made convoy sightings extremely difficult. As Dönitz put it: 'Our main problem, how to locate convoys in the main North Atlantic theatre of operations, still remains unresolved in the summer of 1941.' Another factor was the efforts made by the British to stem the tide of losses. In March Churchill issued his 'Battle of the Atlantic' directive, making the campaign a priority for the Admiralty and for the British war effort.

While losses continued, the Germans began to suffer casualties as well. On 6 March, Prien was off Rockall, to the west of Scotland, where he acted as the focal point for a group of five U-boats converging on convoy OB.293, including Kretschmer in *U-99*, Matz in *U-70* and Eckermann in *U-A*. An attack was made that night, but for once the escorts fought back with vigour. *U-A* was damaged and forced to limp home, while *U-99* was driven off by the aggressiveness of the escorting destroyers. The attackers managed to sink two merchantmen, but *U-70* was forced to the surface, and the surviving crew surrendered. Prien continued to shadow the convoy, but towards dawn on 7 March his boat was spotted by HMS *Wolverine*. Although *U-47* dived, she was straddled by a pattern of depth charges, and was never seen again. Captain Rowland of the *Wolverine* reported seeing a red glow in the depths, presumably where *U-47* took a direct hit. There were no survivors.

The loss of Prien was a blow to the U-boat campaign, and to German morale, but worse was to come. A week later, the 50-ship convoy HX.112 was spotted by *U-110*, commanded by Lemp, the man who sank the *Athenia*. *U-74* (Kentrat), *U-99* (Kretschmer) and *U-100* (Schepke) all raced to intercept the convoy, attacking on 16 March, but only managed to sink one merchantman. The following night they attacked again, and Kretschmer sank five more freighters, but the escorts were closing in, and one of them, HMS *Vanoc,* carried radar. Vectoring in on the 'blip', *Vanoc* rammed and sank *U-100*. Schepke and most of his crew went down with their boat, leaving six survivors to be rescued in the water. More was to follow. HMS *Walker* detected a boat on her Asdic, and dropped a pattern of depth charges. Her target was *U-99*, which was brought to the surface. The crew abandoned their boat, which sank seconds later, and when they were rescued the British were delighted to find they had captured Otto Kretschmer, the leading U-boat ace of the fleet. A week later *U-551*, commanded by Karl Schrott, was sunk off Iceland, the fifth U-boat of the 7th Flotilla to be lost within a matter of days. Even more seriously, the U-boat fleet had lost three of its best aces in Prien, Kretschmer and Schepke. Some analysts claimed the British had a new secret weapon, some advanced technology which they had brought into play. Dönitz was more philosophical:

'The sudden increase of losses in March had not been due to any particular cause nor the result of the introduction of any new anti-submarine devices. The loss of three most experienced commanders at one and the same time had… been purely fortuitous.'

The real secret weapon was delivered into British hands a few weeks later. *U-110* was damaged and captured by HMS *Bulldog* on 9 May 1941, while attacking convoy OB.318. Before they abandoned their boat the crew were unable to destroy their Enigma coding machine and its related code papers, and these fell into Allied hands. The damaged *U-110* sank the following day which helped keep the event secret. The Allies were given a priceless tool: the ability to read German signals without the Germans being aware of it. It would prove a decisive factor in securing an Allied victory.

After the heavy losses of March 1941, the 7th U-boat Flotilla was reduced to a mere 18 boats. Of these, *U-76* would be lost on 5 April. This total included two new boats,

Reinforcements, February 1941

U-69 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 2 November 1940
Operational in flotilla: 1 February 1941
First commander: Kptlt Jost Metzler
Subsequent commanders: August 1941 – March 1942: Kptlt Wilhelm Zahn; March 1942: Kptlt Ulrich Gräf
Operational patrols: 11
Allied vessels sunk: 17
Fate: Sunk on 17 February 1943 (no survivors)

U-70 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 23 November 1940
Operational in flotilla: 1 February 1941
Commander: Kptlt Joachim Matz
Operational patrols: 1
Allied vessels sunk: 1
Fate: Sunk on 7 March 1941 (25 survivors)

U-73 (Type VIIB)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 30 September 1940
Operational in flotilla: 1 February 1941
Commander: Kptlt Helmut Rosenbaum
Operational patrols: 15
Allied vessels sunk: 12
Fate: Transferred to 29th Flotilla on 1 January 1942; sunk on 16 December 1943 (34 survivors)

U-74 (Type VIIB)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 31 October 1940
Operational in flotilla: 1 February 1941
Commander: Kptlt Eitel-Friedrich Kentrat
Operational patrols: 8
Allied vessels sunk: 5
Fate: Transferred to 29th Flotilla on 1 December 1941; sunk on 2 May 1942 (no survivors)

U-97 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 28 September 1940
Operational in flotilla: 1 February 1941
Commander: Kptlt Udo Heilmann
Operational patrols: 13
Allied vessels sunk: 16
Fate: Transferred to 23rd Flotilla on 1 November 1941; sunk on 16 June 1943 (21 survivors)

U-552 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 4 December 1940
Operational in flotilla: 1 February 1941
Commander: ObltzS, later Kvkpt, Erich Topp
Operational patrols: 15
Allied vessels sunk: 32
Fate: Transferred to the 22nd (Training) Flotilla on 1 May 1944; scuttled on 2 May 1945

Left: Kptlt Joachim Schepke, one of the big stars of the 7th U-Flotilla, died with the majority of his crew when *U–100* was rammed by HMS *Vanoc* on 17 March 1941. Only six men on the top of the conning tower were fortunate enough to survive.

Reinforcements, March–June 1941

U-76 (Type VIIB)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 3 December 1940
Operational in flotilla: 1 March 1941
Commander: OblztS Friedrich von Hippel
Operational patrols: 1
Allied vessels sunk: 2
Fate: Sunk on 5 April 1941 (42 survivors)

U-98 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 12 October 1940
Operational in flotilla: 1 March 1941
First commander: Kptlt Robert Gysae
Subsequent commanders: March–October 1942: Kvkpt Wilhelm Schulze; October 1942: OblztS Kurt Eichmann
Operational patrols: 9
Allied vessels sunk: 11
Fate: Sunk on 15 November 1942 (no survivors)

U-551 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 7 November 1940
Operational in flotilla: 1 March 1941
Commander: Kptlt Karl Schrott
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on or soon after 23 March 1941 (no survivors)

U-75 (Type VIIB)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 19 December 1940
Operational in flotilla: 1 April 1941
Commander: Kptlt Helmuth Ringelmann
Operational patrols: 5
Allied vessels sunk: 9
Fate: Transferred to 23rd Flotilla on 1 October 1941; sunk on 28 December 1941 (30 survivors)

U-553 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 23 December 1940
Operational in flotilla: 1 April 1941
Commander: Kptlt Karl Thurmann
Operational patrols: 10
Allied vessels sunk: 13
Fate: Transferred to the 3rd Flotilla on 1 December 1942; sunk on or soon after 20 January 1943 (no survivors)

U-77 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 18 January 1941
Operational in flotilla: 1 May 1941
Commander: Kptlt Heinrich Schonder
Operational patrols: 12
Allied vessels sunk: 15
Fate: Transferred to 23rd Flotilla on 1 January 1942; sunk on 28 March 1943 (9 survivors)

U-71 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 14 December 1940
Operational in flotilla: 1 June 1941
First commander: Kptlt Walter Flachsenberg
Subsequent commander: July 1942 until transfer: Kptlt Hardo Rodler von Roithberg
Operational patrols: 10
Allied vessels sunk: 5
Fate: Transferred to 24th Flotilla on 1 June 1943; scuttled off Wilhelmshaven on 2 May 1945

U-751 (Type VIIC)
Builder: Kriegsmarinewerft (KMW), Wilhelmshaven
Commissioned: 31 January 1941
Operational in flotilla: 1 June 1941
Commander: Kptlt Gerhard Bigalk
Operational patrols: 7
Allied vessels sunk: 6
Fate: Sunk on 17 July 1942 (no survivors)

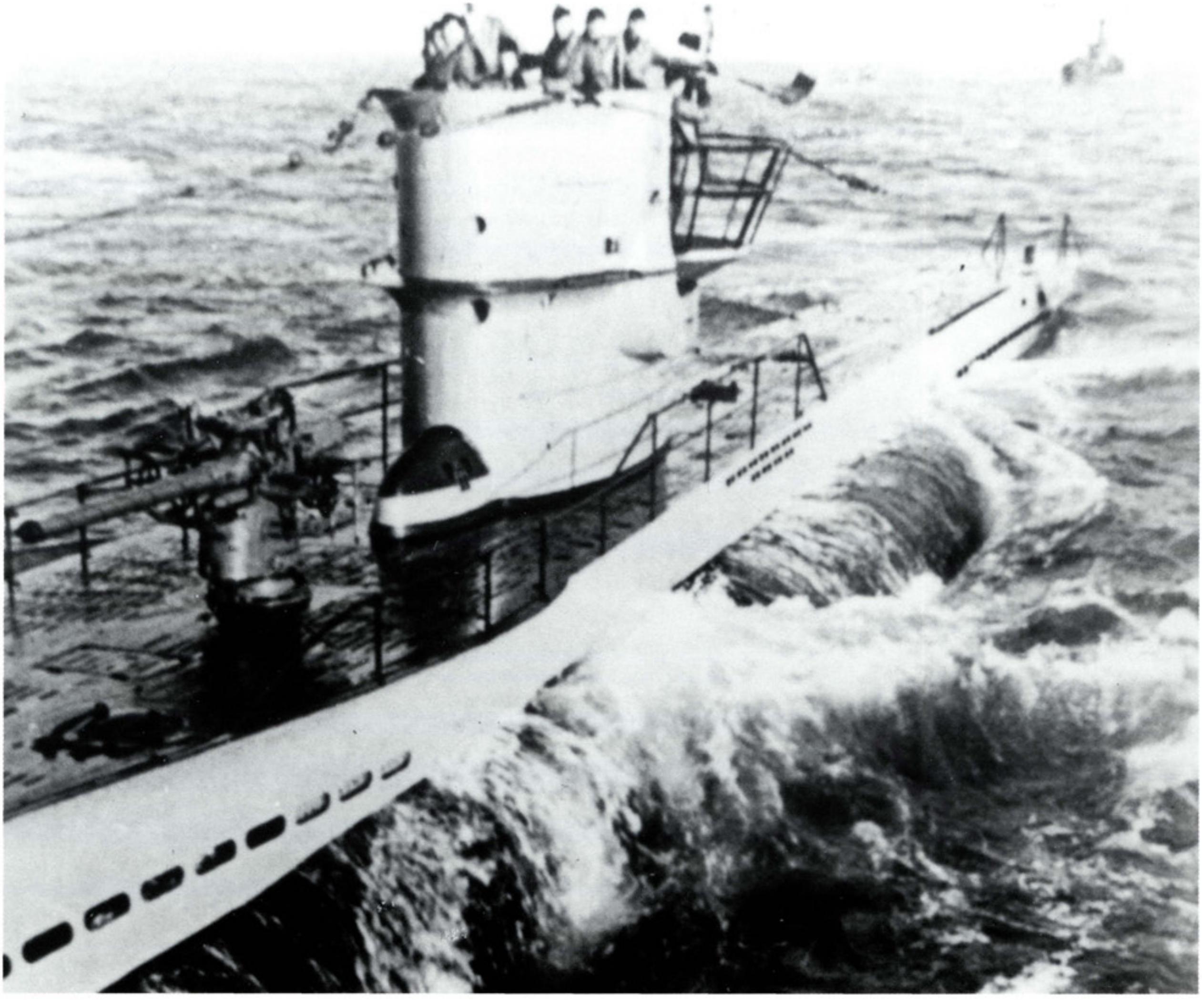
Right: Dockside berths were not allocated to individual boats; space was made available as and when facilities were required. In this view of OblztS Hartmuth Schimmelpfennig's *U-1004* preparing for sea in Kiel during July 1944, torpedoes are being unloaded from trucks on the quayside.

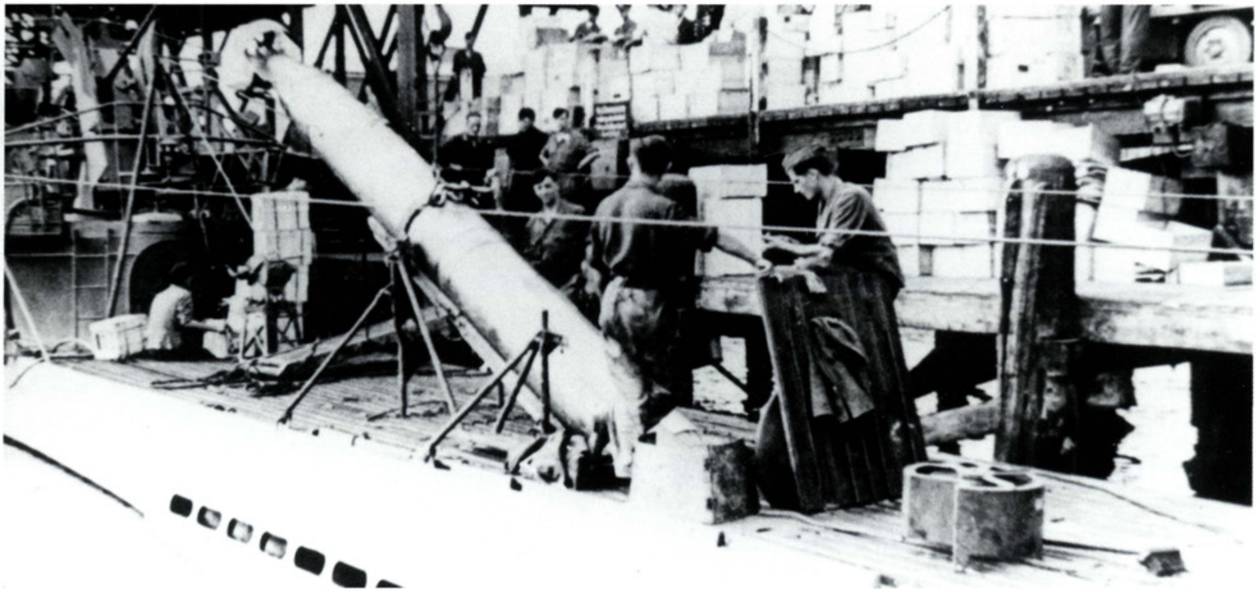
Below right: The port of St Nazaire, the home of the 7th U-boat Flotilla for most of the war. The U-boat pens were located on the eastern side of the Bassin de St Nazaire (renamed the U-boat, or Submarine Basin), which was reached through two entrances – the New (South) Entrance and the Old (East) Entrance. A third entrance led to an inner harbour, linked to the sea by the Normandie Dock.

Below: Good view of the early Type VII conning tower. Note the water pouring out of the free-flooding space between the deck and the pressure hull.

transferred to the operational strength of the flotilla on 1 April (*U-75* and *U-553*). The total strength of the U-boat fleet now exceeded 100 boats, but only 30 were operational at any one time. Some of these craft began to roam further afield, attacking weakly-defended shipping areas off the West African coast and around the Canary Islands. The Allies were also introducing new warships into the campaign, and the commitment of both sides was increasing steadily. While world attention was focussed on the drama surrounding the sortie of the German battleship *Bismarck*, the brutal war between convoys and wolfpacks continued, although ten boats were diverted from normal operations to participate in the *Bismarck* operation during May, including *U-46, U-48, U-73, U-94, U-97* and *U-98*.

Unknown to Dönitz, the cracking of the Enigma codes enabled Royal Navy groups to take the offensive, sinking or capturing nine tankers used to re-supply U-boats at sea. This limited the effectiveness of long-range patrols, as the supply U-boats ordered by Dönitz would not enter service until 1942. At the same time, increasing quantities of long-range aircraft based in Newfoundland, Iceland and Northern Ireland helped to increase the pressure on the U-boat fleet. With more boats, greater British resources and improved intelligence available to the Allies, the campaign was reaching a climax.

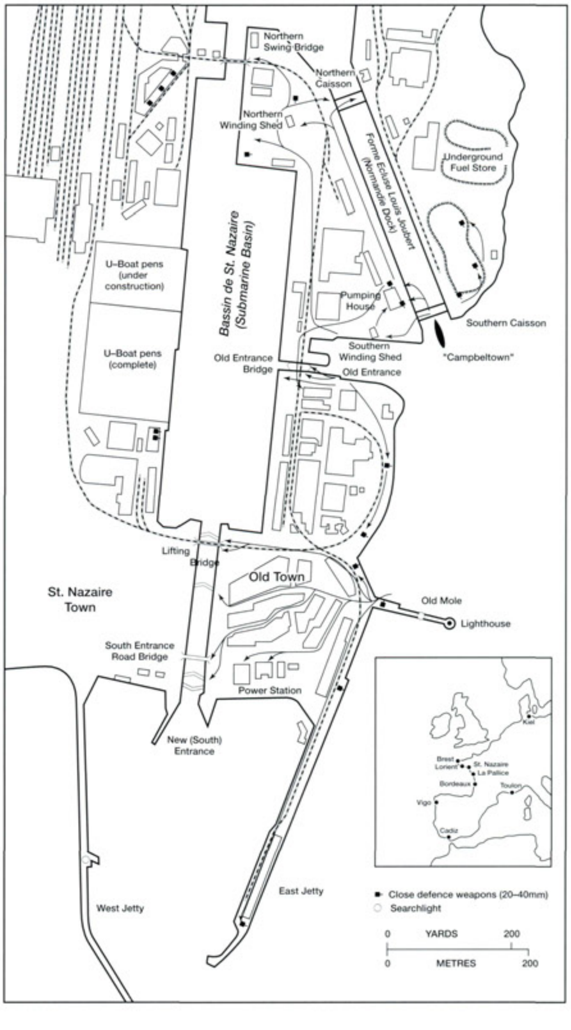




THE MOVE TO ST NAZAIRE: SEPTEMBER 1940 TO JUNE 1941

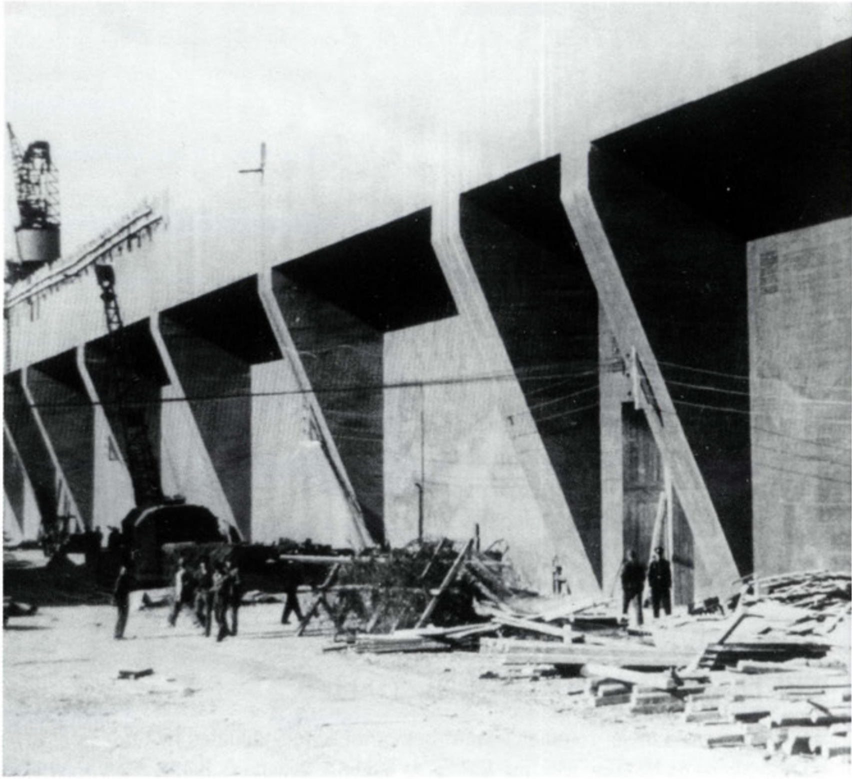
St Nazaire was a major commercial port before the war, dominated by the Bassin de St Nazaire, with the Bassin de Penhoët beyond it, home of the port's extensive Penhoët shipyard. Two entrances led to the outer basin: an old entrance, and a new one, designed to take large cargo vessels and warships. To the west of the port, the Forme Ecluse Louis Joubert was isolated by two caissons or lock gates, and it led to the inner Bassin de Penhoët. This section of the harbour was better known as the Normandie Dock, named after the prewar French transatlantic liner SS *Normandie* which berthed there. Launched at St Nazaire in 1932, the 79,000-ton luxury liner made regular transatlantic trips before the fall of France, when she was impounded by the US authorities. With these facilities, the port made an ideal U-boat base.

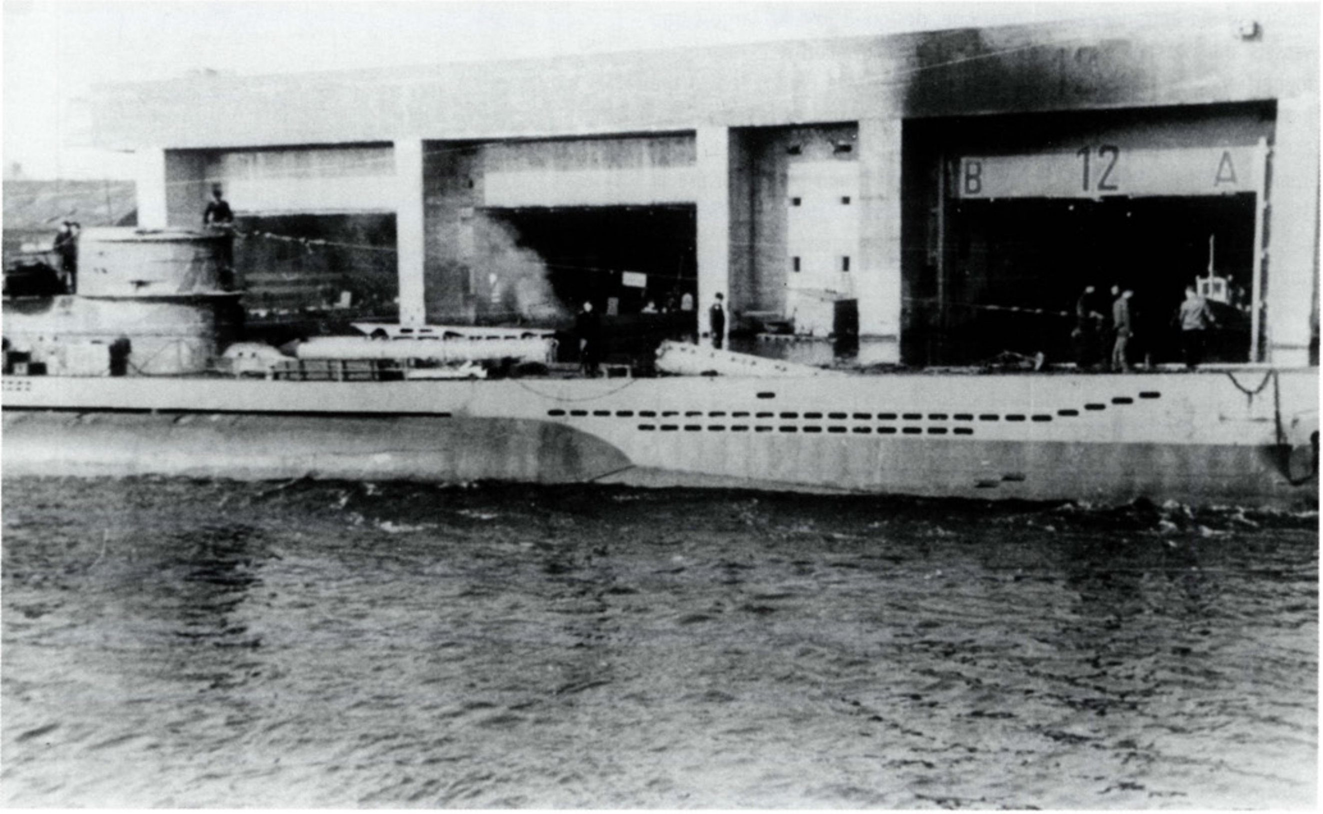
In September 1940, Kvkpt Sohler sent advanced parties to the port, to begin the process of converting parts of the Bassin de St Nazaire into a U-boat dock. The first boat to reach St Nazaire was *U-46* (commanded by ObltzS Engelbert Endrass), on 21 September 1940, on a reconnaissance visit from Lorient. The rest of the flotilla continued to use Kiel until February 1941, as the French port lacked the support and storage facilities needed by both boats and crew. Fortunately for the flotilla, the relatively low level of the U-boat war during late 1940 meant that there was little need for the repair facilities which would have to be dismantled at Kiel, then moved west. This process had already been undertaken elsewhere. Dönitz and the BdU staff moved from Kiel to Paris in September 1940, then two months later they moved again, this time to Lorient in Brittany. U-boats had begun to use this former French Navy port as a base in July 1940, so the 7th Flotilla staff had the experiences of their colleagues in the 2nd Flotilla to draw on when the time came for their own move.

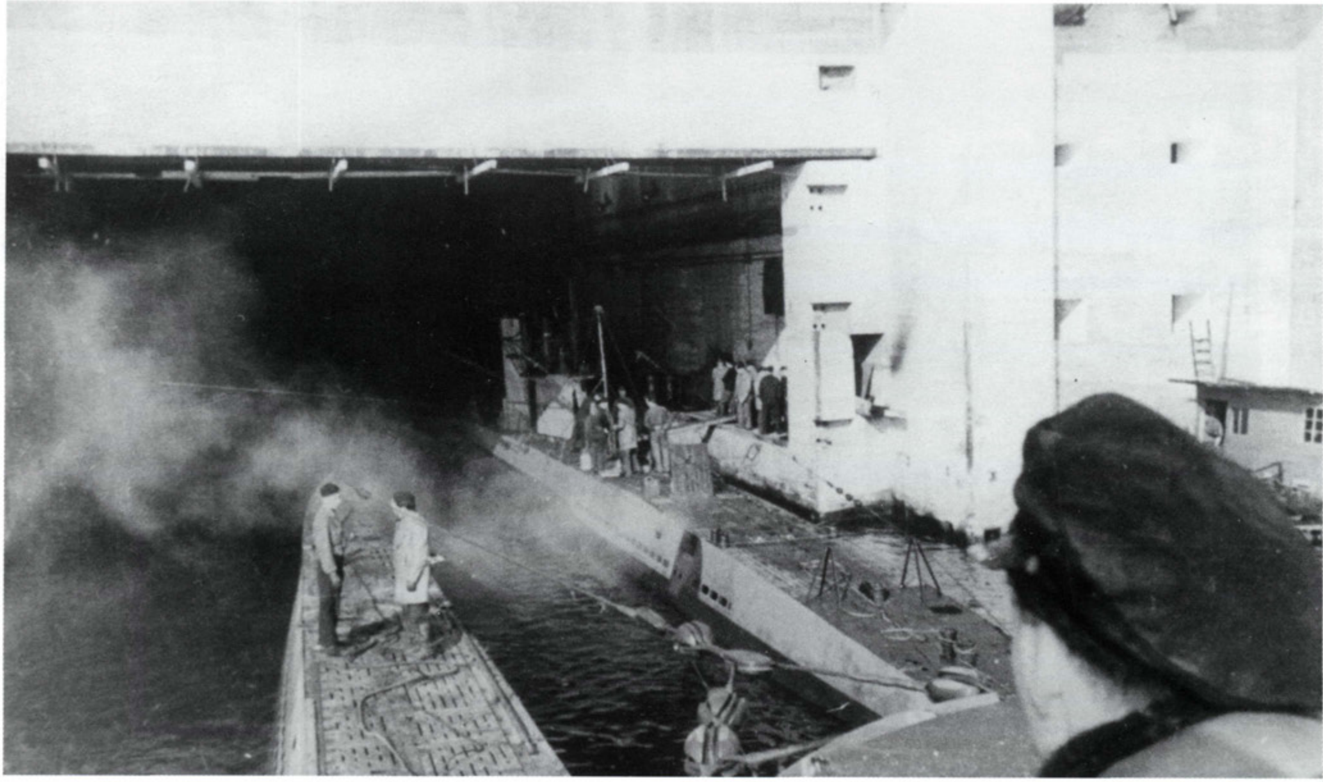

Northern Swing Bridge
Northern Caisson
Northern Winding Shed
Forme Ecluse Louis Joubert (Normandie Dock)
Underground Fuel Store
Bassin de St. Nazaire (Submarine Basin)
U-Boat pens (under construction)
U-Boat pens (complete)
Pumping House
Southern Caisson
Southern Winding Shed
Old Entrance
Old Entrance Bridge
"Campbeltown"
Lifting Bridge
Old Town
St. Nazaire Town
Old Mole
Lighthouse
South Entrance Road Bridge
Power Station
New (South) Entrance
West Jetty
East Jetty
Kiel
Brest
Lorient
St. Nazaire
La Pallice
Bordeaux
Toulon
Vigo
Cadiz
Close defence weapons (20–40mm)
Searchlight
0
YARDS
200
0
METRES
200

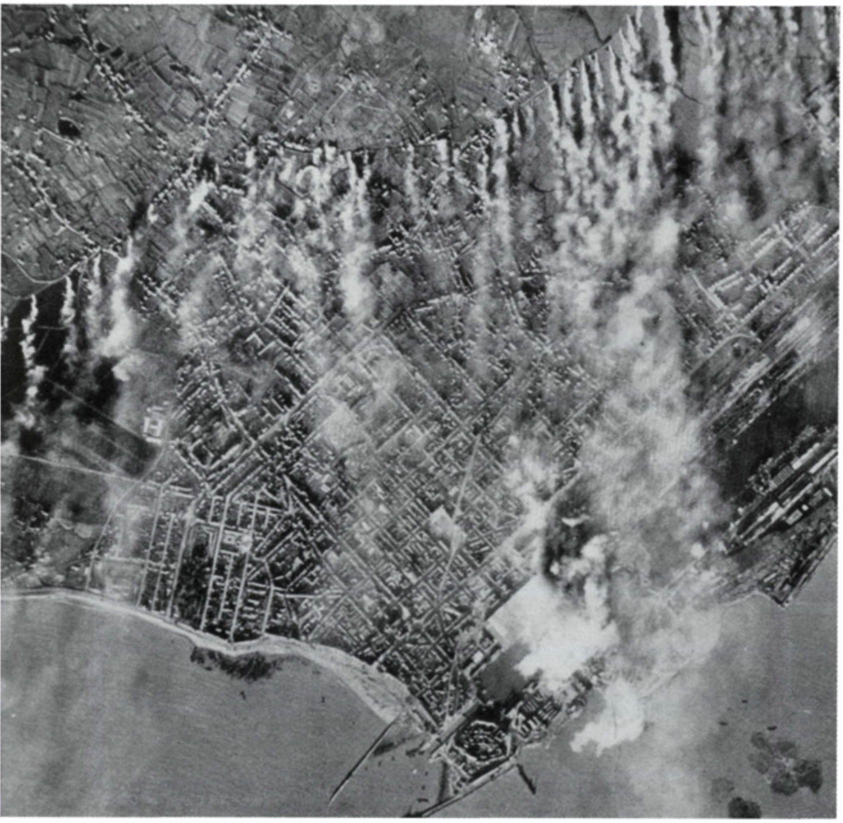
Right: Germany's answer to the ever-increasing number of air raids was to build massive U-boat bunkers. This shows the landward side of the St Nazaire pens while construction work was still in progress. While the Kriegsmarine went to great lengths to fortify its ports, little was done to protect the boats at sea, even in the confined and shallow approaches to the bases in Brittany.

Below: The U-boat pens at St Nazaire included workshop facilities; one is shown to the left of Pen 12 , a windowless concrete structure behind the six rectangular ventilation ports shown in the photograph. Note the appearance of smoke damage to the roof of Pen 12.



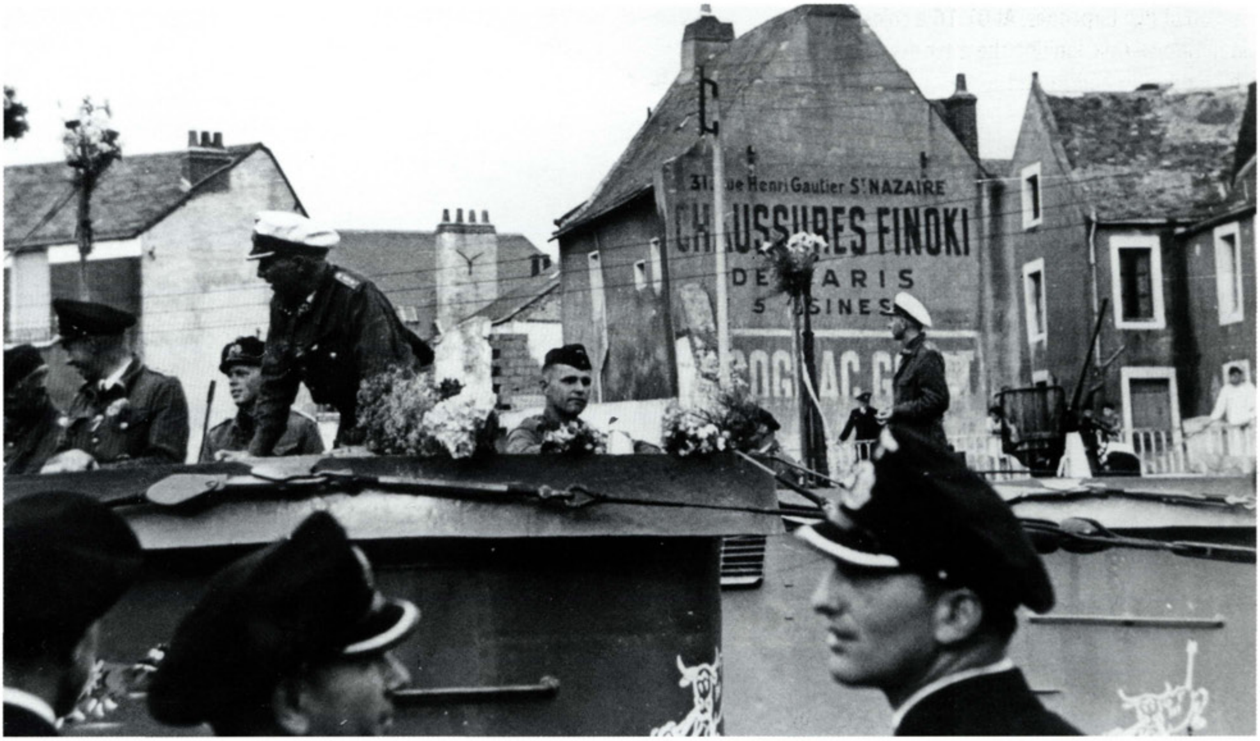






Above: Two Type VII boats lying outside the main entrance to the St Nazaire U-boat pens. A workshop area can be seen on the right of the photograph. The presence of diesel exhaust smoke on the left of the photograph suggests the picture was taken before 1942, when the use of diesel engines in harbour was prohibited. Aerial-launched acoustic mines littered the harbour, and were triggered by diesel engines, but not by electric motors.

Left: St Nazaire shortly after the air raid warning system has triggered the many smoke generators set up around the town. The U-boat bunker in the harbour can be made out as a large white rectangle below a concentration of smoke obscuring many of the harbour features.



Above: *U-94* with *U-93* behind her, inside the larger of the main two locks at St Nazaire. *U-94* was commissioned by Herbert Kuppisch in August 1940 and was later commanded by Otto Ites, who had been second and then first watch officer of *U-48*. *U-93* was commissioned by Claus Korth and later commanded by Horst Elfe. The lack of damage to the buildings in the background indicates this picture was taken shortly after the German occupation of St Nazaire.

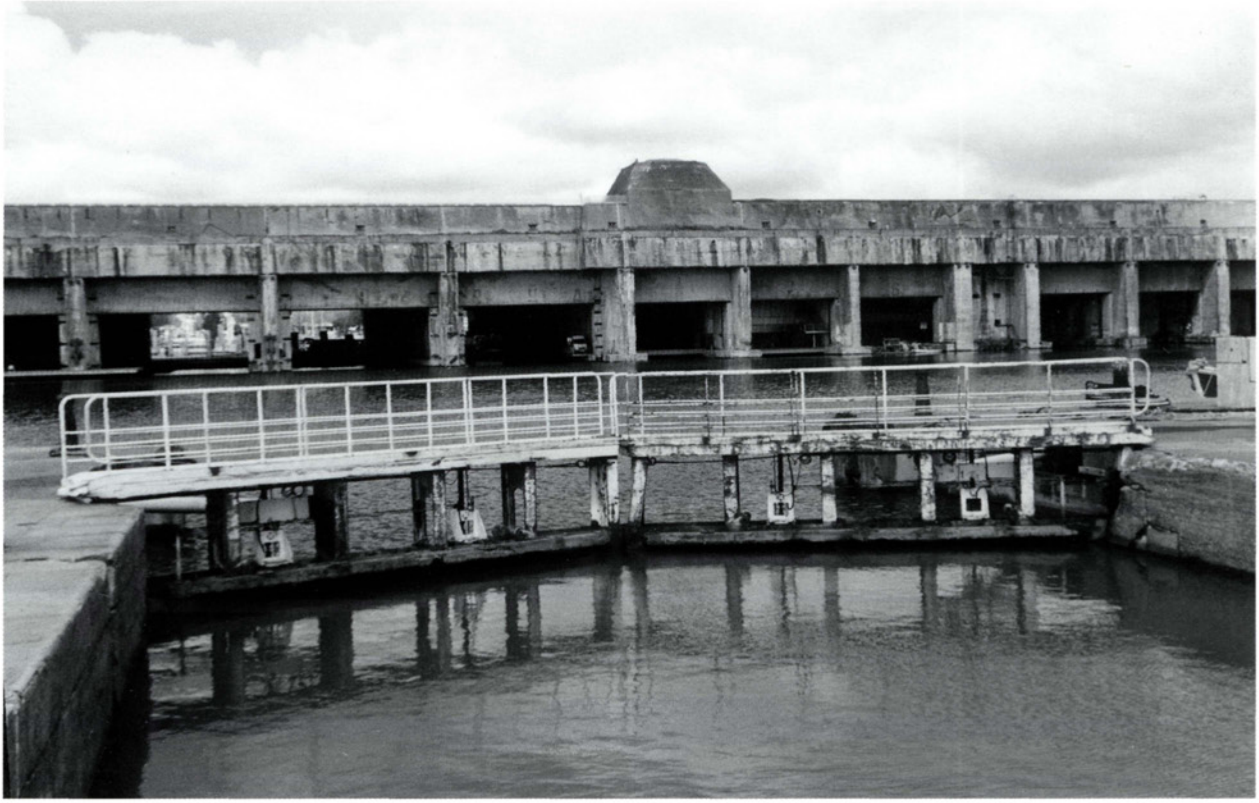
Above right: St Nazaire was practically flattened by Allied bombers during the war, and has since been rebuilt. Apart from the U-boat pens themselves, few wartime landmarks survive. Exceptions are the lighthouses and outer moles protecting the New (South) Entrance to the Submarine Basin.

Right: Looking from the larger of the two sea locks towards the U-boat bunker in the non-tidal part of the harbour at St Nazaire. On the right, below the long arm of the crane, is the smaller sea lock with the German bunkered lock behind it. This picture was taken during the summer of the year 2000.

The flotilla was allocated a special train by the German State Railway, and by November 1940 the process of relocation had begun, as initial work parties arrived in St Nazaire to prepare for later shipments. This involved the transport of weapons, spare parts, repair equipment, supplies, manpower, offices; everything needed to keep over a dozen U-boats fully operational during a campaign. Both the train itself and the base in St Nazaire were designed to be fully self-supporting. The train carried its own restaurant car, while the growing number of flotilla storehouses, offices and barracks in Brittany were catered for by a staff of quartermasters, cooks, waiters and storekeepers. The flotilla train (nicknamed the 'BdU Special') continued to run regular services between Kiel and St Nazaire until the summer of 1944, transporting crews home on leave, or recruits west to begin their service. In addition, a small convoy of trucks spent the war shuttling between Kiel and the Atlantic ports, carrying mail, baggage and administrative files.

The first train from Kiel arrived in St Nazaire in February 1941, and work continued round the clock to provide facilities needed for the boats and their crews. The Hotel Majestic in the small seaside resort of La Baule (7 miles to the west of St Nazaire) became the new flotilla headquarters, and rooms were allocated for U-boat commanders and staffers. Later, other hotels were commandeered to provide additional accommodation in the area. Elsewhere in La Baule the flotilla opened up medical facilities, sports grounds, post offices, canteens, store depots and transport offices. In addition the Casino was converted into a mess hall and recreation area for the U-boat crews. Regular shuttle services ran between the town and the port.

By June 1941 the move had been completed. Eventually St Nazaire was used as a base by two flotillas: the 7th and the 6th, the latter moving from Danzig in February 1942. When the advance parties had arrived, work began on the preparation of ground for the construction of two huge U-boat pens on the west side of the Bassin de St Nazaire (renamed the U-boat Basin). Eventually, one would be used by each of the two flotillas, the 7th being allocated the larger southern pen. Building work began on the first of these



Above: The gates of the small sea lock leading in and out of the non-tidal harbour at St Nazaire, with the massive U-boat bunker in the background. There were two basic types of pens: 'wet' ones and those capable of being pumped out to serve as a dry dock. The wet pens were usually wide enough to accommodate two boats side by side and can be seen on the left, while single dry dock pens are visible on the right. The blocked-in section with tiny windows was a special workshop bay with small heavily shuttered ventilation windows. The hump on the roof held an anti-aircraft gun.

Right: Looking out from one of the pens in the U-boat bunker towards the bunkered lock. The original entrance, dominated by that huge white control tower, lies towards the right of the concrete. The lock inside the bunker is now used to house a French submarine museum.

pens in February 1941, and it was officially opened by Dönitz just four months later, on 30 June 1941. It measured almost 300 metres in length, and stretched back 130 metres, providing heavily-protected dock space for 14 boats at any one time. Despite the damage inflicted on the Normandie Dock by the British Commando raid of March 1942, the U-boat facilities remained in operation, although boats were diverted to other Atlantic ports for a few weeks, while the work of re-opening the entrances to the Submarine Dock were completed. In October 1942 the base became fully operational when the new northern pen was completed. Allied aircraft launched repeated raids on the port, and the U-boat pens were the prime target. Despite being pounded by over 2,000 tons of bombs during their three years of operation, and receiving at least 18 direct hits, the U-boat pens remained in operation, although much of the surrounding town was destroyed.

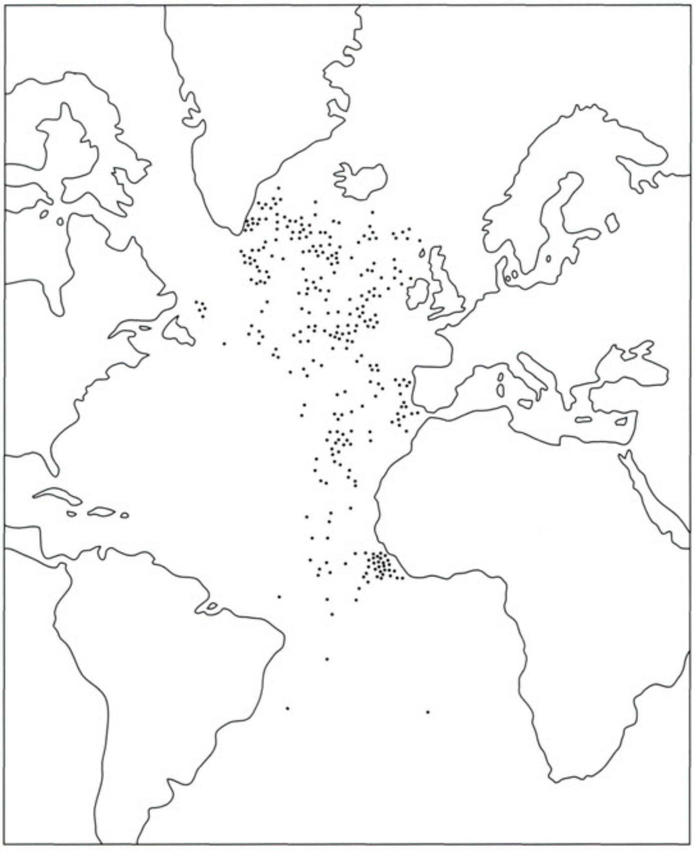
The first operational boats to use St Nazaire as a base were *U-46, U-48* and *U-96*, which arrived on 28 February 1941. From then until June, most of the flotilla's boats would call St Nazaire their home port, although it lacked decent repair facilities until the U-boat pens were completed, which meant badly-damaged boats still had to return to Kiel for repair. When Dönitz opened the new U-boat pen in late June, Sohler had worked wonders in restoring flotilla morale after the loss of the star aces in March. He also provided the flotilla with a new identity, drawing on Günther Prien's 'Bull of Scapa Flow' cartoon, painted on the conning tower of *U-47*. He commemorated the flotilla's first hero by renaming the flotilla base 'Camp Prien', and adopting the *U-47*'s snorting bull emblem for use by the whole flotilla. From June onwards, the 7th Flotilla would be nicknamed the 'Snorting Bull Flotilla'. With a new identity, new boats and a superb new base, the flotilla was ready to continue the war against Allied shipping, which was now entering a climax.

Below: In this detail of the U-boat pens, the pen on the left is a wet pen, while those on the right were designed to serve as dry docks if required.

DEVELOPMENT OF THE *RUDELTAKTIK*: JULY TO DECEMBER 1941

By the summer of 1941, the total number of U-boats at Dönitz's disposal had risen to 184, and numbers continued to rise throughout the year, reaching 250 by 1 December. The problem was that, of this total, fewer than two boats in three were operational U-boats. The remainder were newly-commissioned boats which were still undergoing sea trials, boats whose crews were still in training, or else older boats, held in reserve in the U-boat training flotillas. In addition, while patrols lasted for three weeks or more, most boats spent a similar length of time in port, undergoing repairs or rearmament while their crews prepared for the next patrol. This all meant that at any one time, no more than 36 boats were on patrol in the North Atlantic during the latter half of 1941. Despite this, the general increase in numbers encouraged Dönitz to establish patrol lines in the Atlantic, screens of boats stretching across the major transatlantic convoy routes. When a convoy was sighted, the system allowed the rapid redeployment of boats to intercept the Allied merchantmen. By August, this system had been refined. The boats on the patrol lines engaged any targets which presented themselves as the convoy passed, but they then resumed their patrol positions. Meanwhile, their radio signals had been passed on to the BdU, which directed new hunting wolfpacks into position in the expected path of the convoy. This system produced spectacular results. On 28 August U-boat group 'Markgraf' consisting of 13 boats intercepted convoy SC.42, followed by HX.146, and HX.147. Over 20 merchantmen were lost, as the convoy escorts found themselves overwhelmed by the sheer scale of the attack. The group included a newcomer to the 7th Flotilla, *U-207*, commanded by OblztS Fritz Meyer, who sank three merchantmen, with a combined displacement of over 11,000 tons. This system was perfected in September and October 1941, when no fewer than ten U-boat groups were created.

Below: Allied shipping losses from the end of the 'Happy Time' until the entry of the United States into the war, April to December 1941. Losses were scattered throughout the eastern Atlantic.



The boats of the 7th Flotilla played a leading part in these operations, despite a continuing attrition in men and boats. At the end of June 1941 the veteran *U-48* was retired from active service, being deemed structurally unsound after nearly two years of constant patrolling. With 52 ships displacing a total of more than 300,000 tons to her credit, she was the most successful U-boat of the war. Similarly, *U-46*, and *U-52* were withdrawn from active service during the summer, and all three boats were sent back to Kiel, and then on to Pillau, where they joined 26. Ausbildungsflottille (26th Training Flotilla).

Six boats were lost during the latter part of 1941, in addition to the three prewar boats which were retired from the operational fleet. On 11 September the inexperienced crew of *U-207* were all lost with their boat off Greenland. The same month saw the transfer of several small hunting groups to the Mediterranean, a deployment which would continue until the end of the year. Several 7th Flotilla boats participated in the operation, including *U-74*, *U-75*, *U-77*, *U-95* and *U-453*. Losses were heavy. *U-95* was sunk off the Spanish coast in November by a Dutch submarine. *U-75* (Kptlt Helmuth Ringelmann) was depth-charged and sunk off Mersa Matruh on

Reinforcements, July–December 1941

U-207 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 7 June 1941
Operational in flotilla: 1 July 1941
Commander: ObltzS Fritz Meyer
Operational patrols: 1
Allied vessels sunk: 3
Fate: Sunk on 11 September 1941 (no survivors)

U-403 (Type VIIC)
Builder: Danziger Werft, Danzig
Commissioned: 25 June 1941
Operational in flotilla: 1 September 1941
First commander: ObltzS Heinz Ehlert-Klausen
Subsequent commander: June 1943: Kptlt Karl-Franz Heine
Operational patrols: 7
Allied vessels sunk: 2
Fate: Transferred to 11th Flotilla on 1 July 1942; sunk on 18 August 1943 (no survivors)

U-575 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 19 June 1941
Operational in flotilla: 1 September 1941
First commander: Kptlt Günther Heydemann
Subsequent commander: September 1943: ObltzS Wolfgang Boehmer
Operational patrols: 10
Allied vessels sunk: 9
Fate: Sunk on 13 March 1944 (37 survivors)

U-576 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 26 June 1941
Operational in flotilla: 1 September 1941
Commander: Kptlt Hans-Dieter Heinicke
Operational patrols: 4
Allied vessels sunk: 4
Fate: Sunk on 15 July 1942 (no survivors)

U-133 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 5 July 1941
Operational in flotilla: 1 October 1941
Commander: ObltzS Hermann Hesse
Operational patrols: 3
Allied vessels sunk: 1
Fate: Transferred to 23rd Flotilla on 1 January 1942; sunk on 14 March 1942 (no survivors)

U-577 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 3 July 1941
Operational in flotilla: 1 October 1941
Commander: Kptlt Herbert Schauenburg
Operational patrols: 3
Allied vessels sunk: 0
Fate: Sunk on 15 January 1942 (no survivors)

U-578 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 10 July 1941
Operational in flotilla: 1 October 1941
Commander: Kvkpt Ernst-August Rehwinkel
Operational patrols: 5
Allied vessels sunk: 5
Fate: Sunk on or soon after 6 August 1942 (no survivors)

U-434 (Type VIIC)
Builder: F. Schichau GmbH, Danzig
Commissioned: 21 June 1941
Operational in flotilla: 1 November 1941
Commander: Kptlt Wolfgang Heyda
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 18 December 1941 (42 survivors)

U-453 (Type VIIC)
Builder: Deutsche Werke AG, Kiel
Commissioned: 26 June 1941
Operational in flotilla: 1 November 1941
First commander: Kptlt Gert Hetschko
Subsequent commander: July 1941 to transfer: Kptlt Freiherr Egon Reiner von Schlippenbach
Operational patrols: 17
Allied vessels sunk: 11
Fate: Transferred to 29th Flotilla on 1 January 1942; sunk on 21 May 1944 (51 survivors)

U-454 (Type VIIC)
Builder: Deutsche Werke AG, Kiel
Commissioned: 24 July 1941
Operational in flotilla: 1 November 1941
Commander: Kptlt Burckhard Hackländer
Operational patrols: 10
Allied vessels sunk: 2
Fate: Sunk on 1 August 1943 (14 survivors)

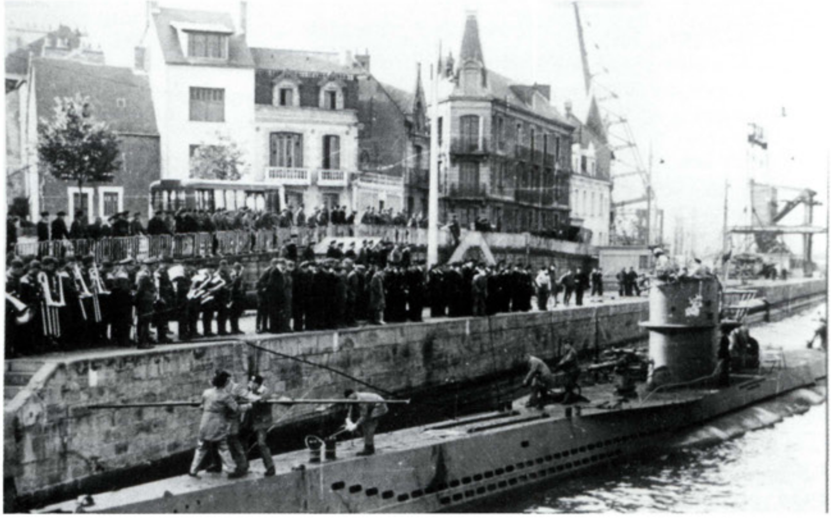
U-567 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 23 December 1940
Operational in flotilla: 1 November 1941 (transferred from 3rd Flotilla)
First commander: Kptlt Theodor Fahr
Subsequent commander: October 1941: Kptlt Engelbert Endrass
Operational patrols: 3
Allied vessels sunk: 2
Fate: Sunk on 21 December 1941 (no survivors)

U-135 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 16 August 1941
Operational in flotilla: 1 December 1941
First commander: Kptlt Friedrich-Hermann Praetorius
Subsequent commanders: November 1942 – June 1943: ObltzS Heinz Schütt; June 1943: ObltzS Otto Luther
Operational patrols: 7
Allied vessels sunk: 3
Fate: Transferred to 23rd Flotilla on 1 January 1942; sunk on 15 July 1943 (41 survivors)

U-581 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 31 July 1941
Operational in flotilla: 1 December 1941
Commander: Kptlt Werner Pfeifer
Operational patrols: 2
Allied vessels sunk: 0
Fate: Sunk on 2 February 1942 (41 survivors)

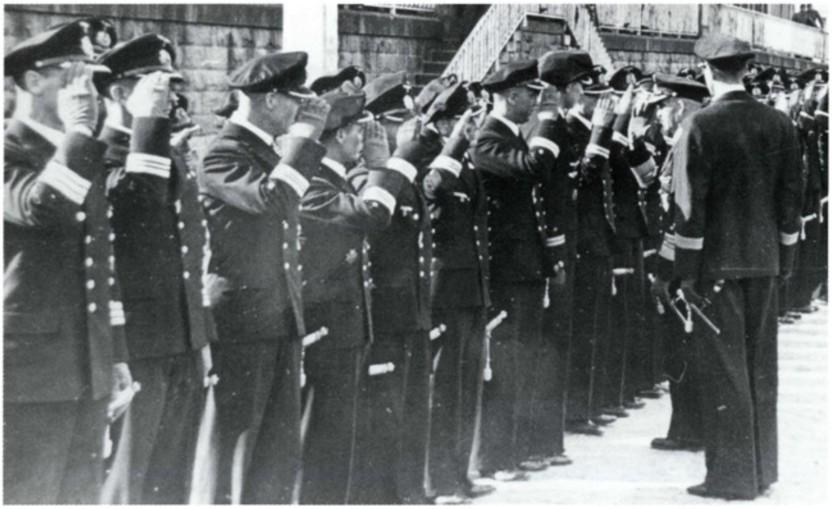
28 December, and the flotilla lost three other boats in the Mediterranean early the following year.

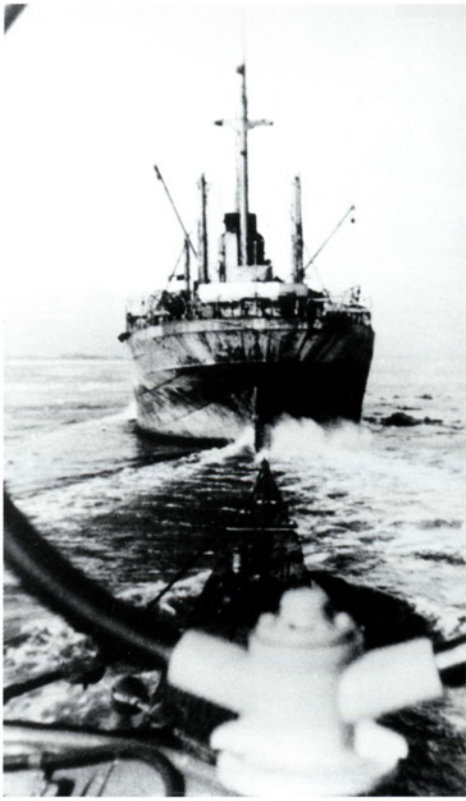
In the Atlantic, the patrol lines were extended further west, and by the end of the year U-boats were operating off the American coastline. While Type VIIB U-boats of the 7th Flotilla formed part of this move, *U-A* was converted into a supply submarine, to extend the range of these boats, who were to enjoy a fertile hunting period once America finally entered the conflict. As early as the spring of 1941 the still-neutral United States assumed responsibility for the protection of convoys in the western Atlantic. This increasing American involvement in the Battle of the Atlantic meant that the active involvement of the US Navy in the campaign was becoming increasingly likely. The declaration of war between the United States and Germany in December 1941 only formalised the situation. Although the bulk of the US Navy was committed to the war in the Pacific, the American entry into the war would have a pronounced impact on the course of the Battle of the Atlantic. Although the German commanders would enjoy further periods of success, the tide had turned.



Right: U-boats based at St Nazaire entered their home port through one of two narrow entrances, The New (South) Entrance and the Old (East) Entrance. A third entrance via the Normandie Dock and inner Bassin de Penhoët was rarely used by U-boats due to the time needed to flood its locks. Most U-boat crews had little experience in manoeuvring their boats in confined harbour spaces, a problem which was exacerbated by the location of the helmsman below decks, where he was unable to see what was happening outside. This photograph most probably shows the *U-46* passing out of the New Entrance, while her crew fend her off from the lock walls.

Below: A U-boat heading out to sea through the New (South) Entrance to St Nazaire's U-boat Basin. The lack of damage to the lock-side buildings in both these photographs suggest they were taken before the heavy Allied air raids of 1942.



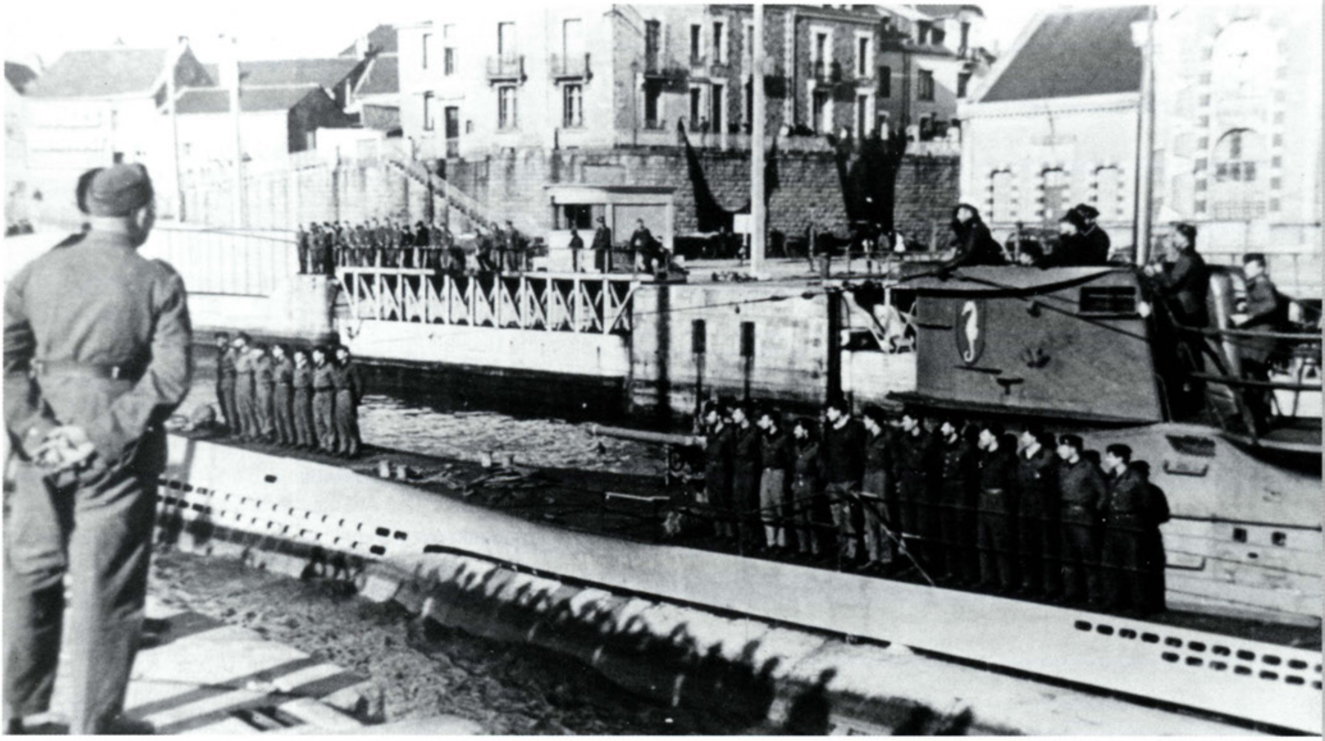


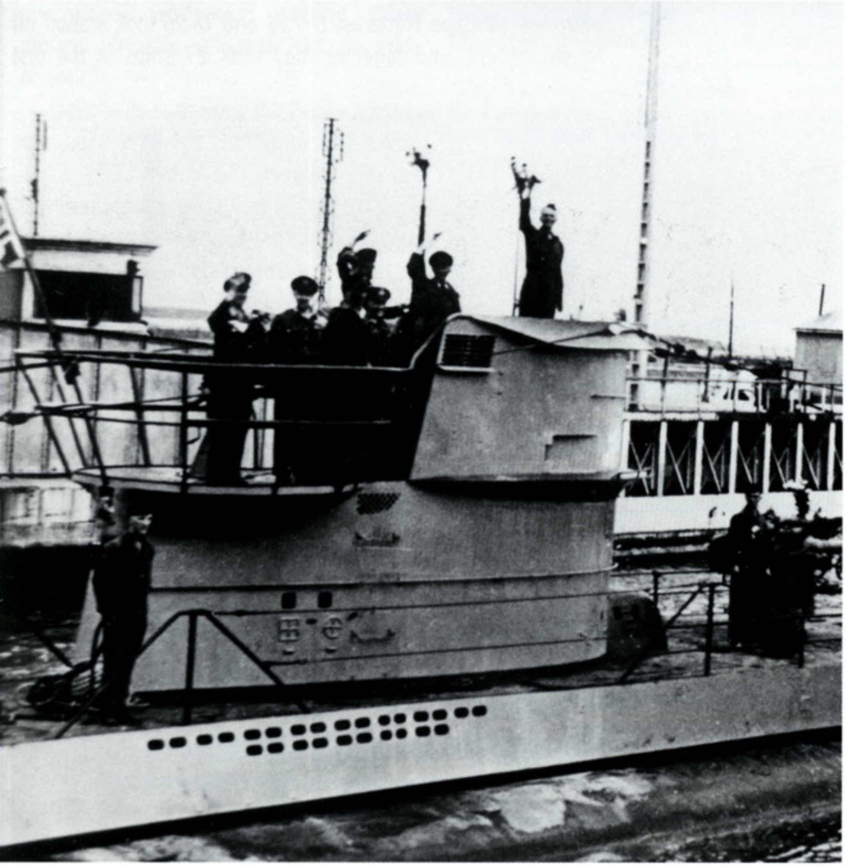
Above: A *Sperrbrecher*, or mine detonator escort, photographed through the circular radio direction finder aerial, running in front of a U-boat. These specially converted ships also carried a healthy anti-aircraft armament, but only escorted U-boats through the coastal minefields.

Top left: U-boat crews of the 7th Flotilla nicknamed their St Nazaire U-boat bunker the 'big railway station', and it frequently formed the backdrop for reception parties. In this high-profile ceremony at St Nazaire, Admiral Otto Schniewind inspects a parade of waiting flotilla officers. The Flotilla Commander, Kvkpt Herbert Sohler, is pictured standing beside him, with his back to the camera.

Above left: In some cases, civilian employees of the Kriegsmarine came to the quayside to welcome U-boats home from patrol. In this photograph (most probably taken at Kiel), civilians, Hitler Youth members and servicemen line the quayside.

Left: In the same way as U-boat patrols were conducted regardless of sea state or weather, the return of boats to their home port also took place in all weather conditions. Here, German female servicewomen await the arrival of a U-boat.





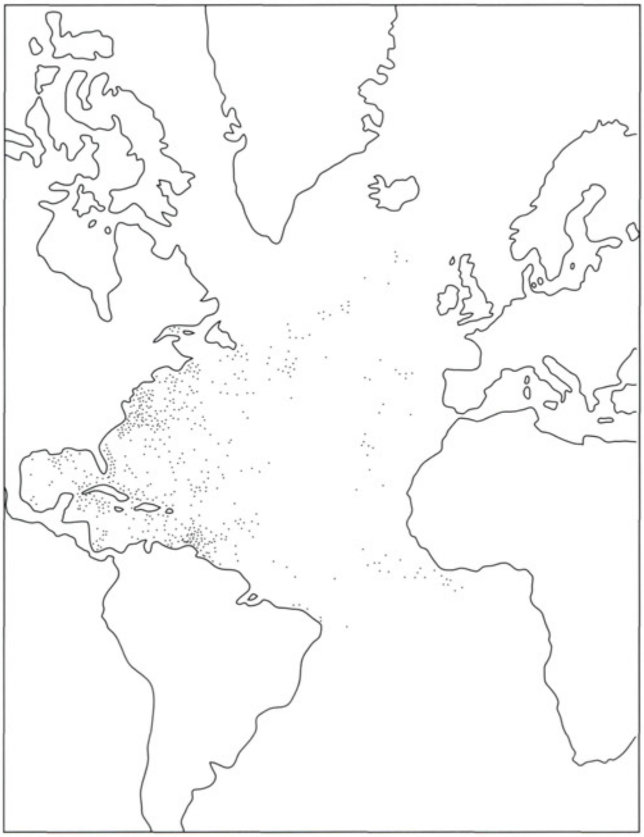
Opposite, Above left: Kptlt Heinrich Zimmermann of *U-136* being presented with a welcome home gift by the side of the large lock at St Nazaire.

Opposite, Above right: Security was often of secondary importance during quayside welcoming receptions, and servicemen and civilian guests mingled freely on the dock and even on the boats secured alongside

Opposite, Below: Formal inspections and parades were also a feature of life in the 7th U-boat Flotilla. In this photograph, a guard of honour is formed up for inspection outside St Nazaire's Prien Barracks.

Above: *U-97* identifiable by its seahorse emblem, passes through the larger New (South) Lock Entrance into St Nazaire's U-boat Basin. The lock's pumping station can be seen in the backgrounds (right).

Left: *U-93* leaving St Nazaire.



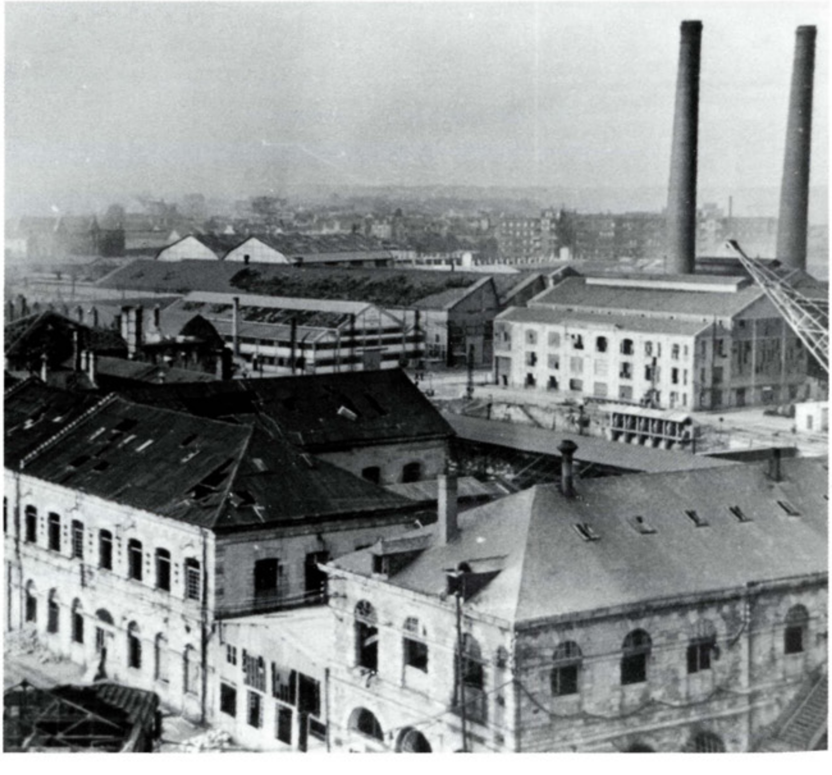
Above: Allied shipping losses during the campaign in American waters, January to June 1942. The U-boat crews enjoyed a second 'Happy Time' in the coastal waters of the Atlantic seaboard and in the Caribbean Sea.

THE CAMPAIGN IN AMERICAN WATERS: JANUARY TO JUNE 1942

America's entry into the war meant that the U-boats had to increase the number of ships they sank. Dönitz and his staff calculated that the boats needed to sink in excess of 800,000 tons a month to continue the stranglehold on the British war effort.

With the weight of the American merchant marine at the disposal of the Allies, the task had become much harder. This said, the U-boats embarked on what could only be described as a 'feeding frenzy' off the American coastline during the first six months of 1942, as the Americans only instituted a convoy system in May. Dönitz began Operation *Paukenschlag* (Drumroll) in January, diverting as many of his boats as he could to the far side of the Atlantic. In the following six months, his U-boats sank over 3 million tons of shipping. Despite the immensity of these losses, this was just over half the target set by Dönitz and his analysts.

Once again, 7th Flotilla boats were at the forefront of the campaign. In January Erich Topp in *U-552*, Karl Thurmann in *U-553* and Friedrich-Hermann Praetorius in *U-135* sank 30,000 tons of shipping in American waters, the first of a string of successful attacks over the next few months. *U-94* and *U-96* patrolled off Cape Hatteras, *U-751* and *U-98* took station off Newfoundland, and together they sank 27 ships in the first



Left and Far left: From 1942 onwards St Nazaire was subjected to increasingly heavy air raids by both the RAF and the USAAF. While damage to the U-boat pens was minimal due to their heavily reinforced protective bunkers, the rest of the port was heavily damaged.

three months of 1942. The effectiveness of these long-range deployments was increased when the first Type XIV U-tankers (often described as 'milch-cows' from the German *Milch-kuh* or 'milk-cow') entered service from April 1942 onwards. Soon these support boats were attached to operational wolfpacks, making these groups virtually self-sufficient in mid-Atlantic.

Despite its successes, the flotilla's losses continued to mount. During the first half of 1942, *U-93* and *U-577* were sunk in the Mediterranean, while other boats were transferred to other flotillas, or withdrawn from operational service. This was matched by a steady stream of reinforcements, all Type VIIC boats, so that by the end of June 1942, the flotilla strength had risen to 23 operational U-boats. While this sounded good, in fact Germany was losing the race. Allied shipbuilding capacity meant that the U-boats were finding it increasingly difficult to maintain the pressure on Britain. This second 'Happy Time' where individual ships were sunk in large numbers came to an end in mid-1942, when the Americans instituted well-defended coastal convoys. From that point on, the campaign would be fought in the mid-Atlantic. Dönitz resumed his *Rudeltaktik* ('pack attack') as a stream of new boats entered service. The climactic period of the Battle of the Atlantic was about to begin.

Reinforcements, January–June 1942

U-455 (Type VIIC)
Builder: Deutsche Werke AG, Kiel
Commissioned: 21 August 1941
Operational in flotilla: 1 January 1942
First commander: Kptlt Hans-Heinrich Giessler
Subsequent commander: November 1942: Kptlt Hans-Martin Scheibe
Operational patrols: 10
Allied vessels sunk: 3
Fate: Transferred to 29th Flotilla on 1 March 1944; sunk on or soon after 6 April 1944 (no survivors)

U-436 (Type VIIC)
Builder: F. Schichau GmbH, Danzig
Commissioned: 21 June 1941
Operational in flotilla: 1 February 1942
Commander: Kptlt Günther Seibicke
Operational patrols: 8
Allied vessels sunk: 6
Fate: Sunk on 26 May 1942 (no survivors)

U-593 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 23 October 1941
Operational in flotilla: 1 March 1942
Commander: Kptlt Gerd Kelbling
Operational patrols: 16
Allied vessels sunk: 14
Fate: Transferred to the 29th Flotilla on 1 November 1942; sunk on 13 December 1943 (no casualties)

U-594 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 30 October 1941
Operational in flotilla: 1 March 1942
First commander: Kptlt Dietrich Hoffmann
Subsequent commander: June 1942: Kptlt Friedrich Mimm
Operational patrols: 5
Allied vessels sunk: 2
Fate: Sunk on 4 June 1943 (no survivors)

U-702 (Type VIIC)
Builder: H.C. Stülcken & Sohn, Hamburg
Commissioned: 3 September 1941
Operational in flotilla: 1 March 1942
Commander: Kptlt Wolf-Rüdiger von Rabenau
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on or soon after 3 April 1942 (no survivors)

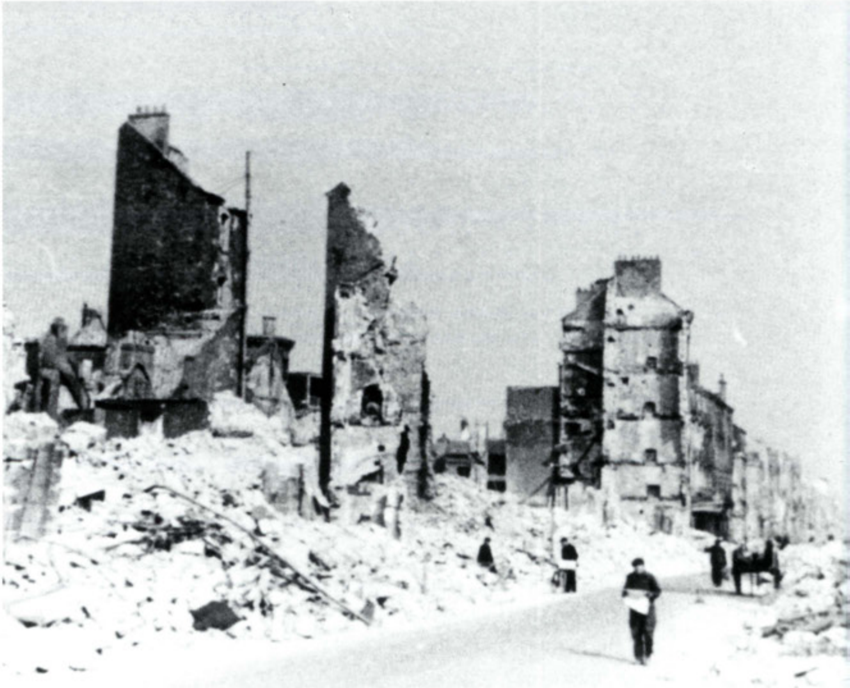
U-88 (Type VIIC)
Builder: Flender-Werke, Lübeck
Commissioned: 15 October 1941
Operational in flotilla: 1 May 1942
Commander: Kptlt Heino Bohmann
Operational patrols: 3
Allied vessels sunk: 2
Fate: Transferred to 11th Flotilla on 1 July 1942; sunk on 12 September 1942 (no survivors)

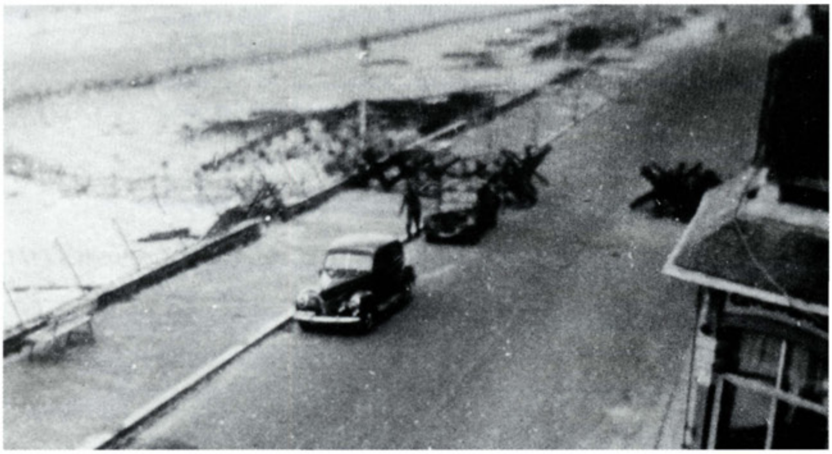
U-406 (Type VIIC)
Builder: Danziger Werft, Danzig
Commissioned: 22 October 1941
Operational in flotilla: 1 May 1942
First commander: ObltzS Horst Dieterichs
Subsequent commander: June 1943: Kptlt Karl-Franz Heine
Operational patrols: 11
Allied vessels sunk: 1
Fate: Sunk on 18 February 1944 (45 survivors)

Right: The effects of the St Nazaire raids on the civilian French population were catastrophic, forcing a mass evacuation of the area. Despite the damage, the base remained in operation.

Below right: As far as possible the 7th U-Flotilla tried to accommodate its main offices in the holiday resort of La Baule rather than within the industrial heartland of the St Nazaire dockland. This shows a house in La Baule used to accommodate U-boat men.

Below: Named after the *Kapitänleutnant* of the same name (see photograph page 91), Bigalk House in St Nazaire was rented by the Kriegsmarine and used – until its destruction in a bombing raid – to support the operations of the flotilla.



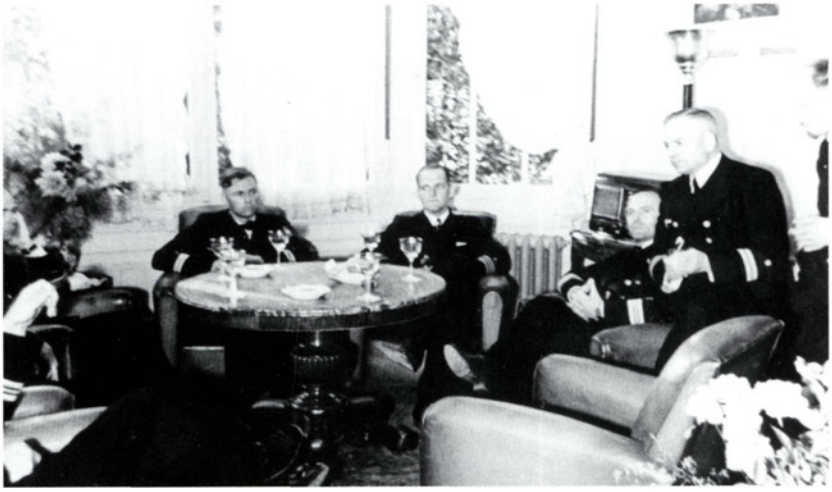


Above left and Left: The aftermath of battle. Many commanders only allowed more senior men on the top of the conning tower when sailing through such horrific scenes of destruction and suffering.

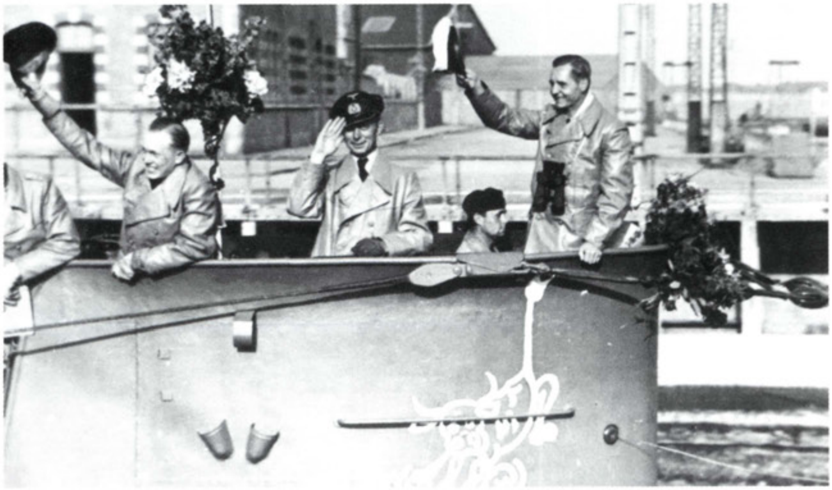
Left: The seafront at La Baule. Looking at this peaceful scene one would hardly guess that World War II was in full swing. Yet, despite destruction and killing on an unprecedented scale, there were still many peaceful havens left.

Below left: The British Commando raid on St Nazaire in March 1942 led to heightened security in and around the port. Kriegsmarine ratings were rarely called upon to perform security duties, as U-boat crews were considered too highly trained to risk in skirmishes on land with commandos or resistance groups.

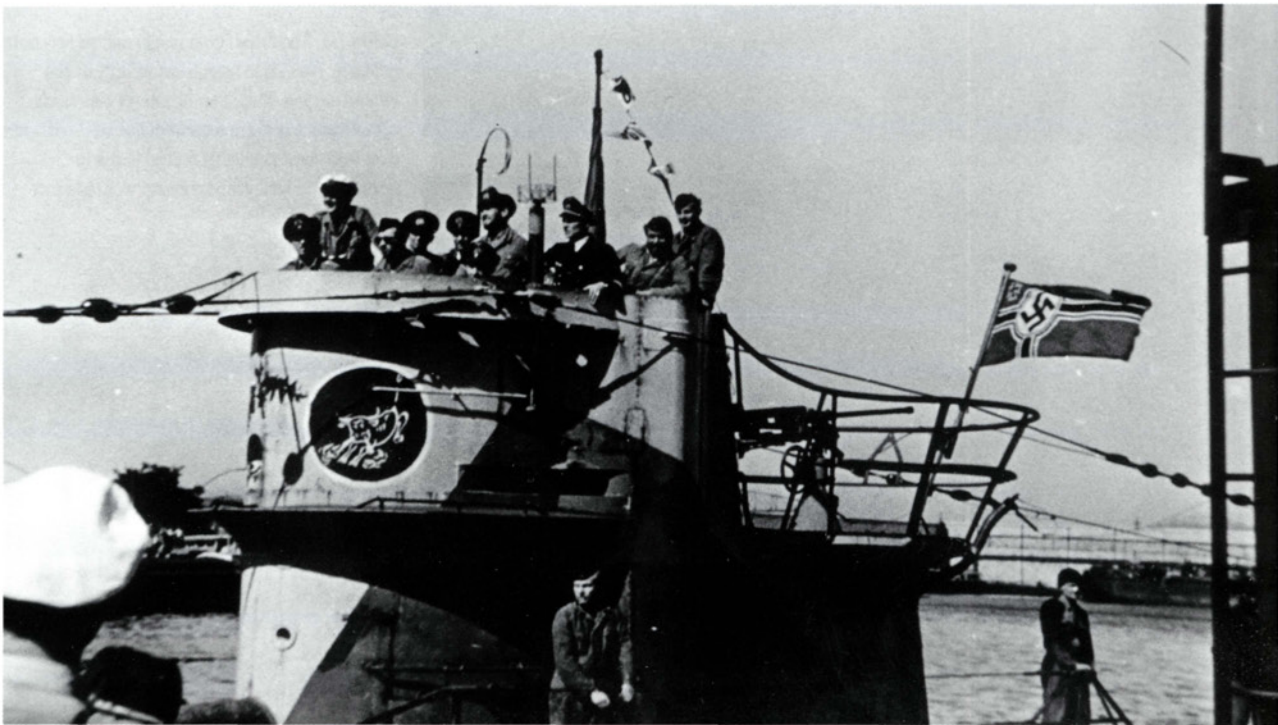
Right: The officers mess at La Baule in 1942. The flotilla's Chief Engineering Officer, Kptlt Claus Erhardt, can be seen on the left. Third from the left is Kvkpt Erich Topp of *U-552*. Considerable effort went into making the men's accommodation as comfortable as possible. Minor points, such as the positioning of potted plants and cut flowers, received detailed scrutiny.



Below right: A Type VIIB boat (probably Kptlt Endrass's *U-46*) passing through the main (New) lock in St Nazaire at the beginning of a patrol. Endrass was Prien's watchkeeping officer on *U-47* when it entered Scapa Flow.



Below: Some crews did not have the stencil for the snorting bull emblem and therefore produced their own drawings, leading to a number of variations. This picture is of special interest because it shows a circular aerial for the radar detector to the left of the raised periscope. This replaced the earlier crude wooden 'Biscay Cross' equipment. The anti-aircraft armament has not yet been enlarged, suggesting this was probably taken some time during 1942.



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Left: The staff car and driver of the 7th Flotilla's Engineering Officer, Kptlt Satler, outside a fuel depot in St Nazaire.

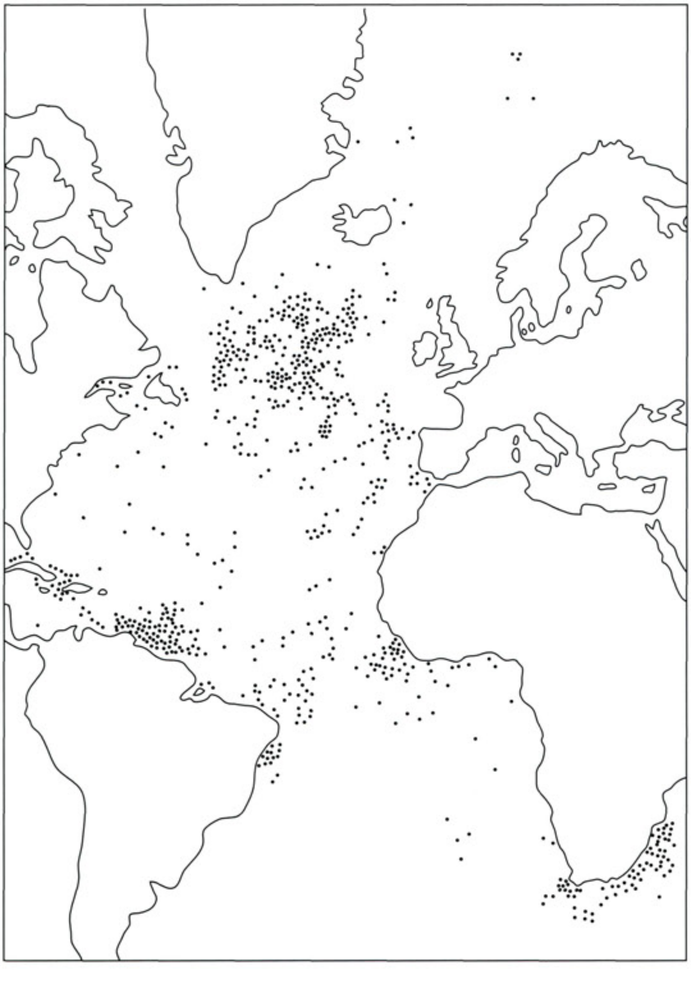
Below: A meeting inside the bunker at St Nazaire.

THE CLIMAX OF THE CAMPAIGN: JULY 1942 TO MAY 1943

A steady increase in U-boat numbers meant that when the *Rudeltaktik* policy was revisited by Dönitz and the BdU in the summer of 1942, a greater number of boats could be brought into any particular convoy battle. Where the previous year wolfpacks of less than a dozen boats were common, by August 1942 groups of twice that size were thrown into the battle. Initial results were disappointing for the Germans. From July to the end of October, some 15 convoys were attacked by wolfpacks, and 67 ships sunk, with a combined displacement of 340,000 tons. This fell far short of the quota set by the BdU to assure victory in the campaign. Poor weather played a part, as did the increased use of radar by the escorts, allowing them to drive off U-boats with greater efficiency.

Long-range allied aircraft also became an increasingly serious threat to U-boats in transit, a problem demonstrated when *U-751* (Kvkpt Gerhard Bigalk) was sunk in the Bay of Biscay by depth charges dropped by Lancaster bombers, diverted from the bombing of Germany to help in the Atlantic campaign. These aircraft carried radar sets, making them extremely effective. Increasingly, boats were forced to remain submerged during their transit of the Bay of Biscay and the Western Approaches, while engineers raced to fit electronic suites in the boats, capable of detecting operational radar sets. This device bought the U-boat crews time to dive for cover, but in February 1943 an improved airborne radar was introduced, whose emissions were harder to detect. Needless to say, losses mounted. Allied shore-based aircraft and the increased use of escort carriers also meant that air cover for convoys was improving, which in turn also reduced the effectiveness of long-range German reconnaissance aircraft.

Below: Allied shipping losses during the climactic phase of the Battle of the Atlantic, from August 1942 until May 1943. During this period the increasing number of Allied escorts and aircraft and improved technology forced Dönitz to send his boats further afield in search of prey.



It is all too easy for historians to reduce warfare to statistics. This is especially true of the Battle of the Atlantic, but numbers fail to convey the horror of a U-boat crew pounded by depth charges, or the lonely death of merchant seamen adrift in the burning sea. This said, the campaign was a war of numbers: tonnage sunk, ships lost and U-boats destroyed. During this phase of the campaign the BdU staff noted a marked downwards shift in the number of merchant ships sunk compared to the number of U-boats lost. This was compounded by increasing German problems in the shallow waters of the Mediterranean, which proved something of an ulcer for the U-boat service. Faced with mounting losses and the Anglo-American Torch invasion of North-West Africa in November, Dönitz ordered most of his boats out of the Mediterranean, concentrating on attacks off the Moroccan coast, west of the Straits of Gibraltar.

In the Atlantic, the U-boats achieved their greatest success in November 1942, reversing the trend of the latter part of the year. While seven U-boats were lost during the month (the highest monthly total of 1942), 126 merchantmen were sunk, with a total displacement of 802,000 tons. For the first time, the U-boats had exceeded the quota set by Dönitz in December 1941.

This phase of the war was critical for Germany, but the U-boats proved unable to prevent the Allied invasion of North Africa, or to sustain their successes in the North

Reinforcements, July–December 1942

U-704 (Type VIIC)
Builder: H.C. Stülcken & Sohn, Hamburg
Commissioned: 18 November 1941
Operational in flotilla: 1 July 1942
Commander: Kptlt Horst-Wilhelm Kessler
Operational patrols: 5
Allied vessels sunk: 1
Fate: Transferred to 21st (Training) Flotilla on 1 April 1943; scuttled on 3 May 1945

U-607 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 29 January 1942
Operational in flotilla: 1 August 1942
Commander: Kptlt Ernst Mangersen
Operational patrols: 5
Allied vessels sunk: 4
Fate: Sunk on 13 July 1943 (7 survivors)

U-221 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 9 May 1942
Operational in flotilla: 1 September 1942
Commander: OblztS, later Kptlt, Hans-Hartwig Trojer
Operational patrols: 5
Allied vessels sunk: 12
Fate: Sunk on 27 September 1943 (no survivors)

U-410 (Type VIIC)
Builder: Danziger Werft, Danzig
Commissioned: 23 February 1942
Operational in flotilla: 1 September 1942
Commander: Kptlt Kurt Sturm
Operational patrols: 7
Allied vessels sunk: 10
Fate: Transferred to the 29th Flotilla on 1 June 1943; sunk on 11 March 1944 (no survivors)

U-617 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 9 April 1942
Operational in flotilla: 1 September 1942
Commander: Kptlt Albrecht Brandi
Operational patrols: 7
Allied vessels sunk: 11
Fate: Transferred to 29th Flotilla on 1 December 1942; sunk on 12 December 1943 (no survivors)

U-618 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 16 April 1942
Operational in flotilla: 1 September 1942
First commander: OblztS Kurt Baberg
Subsequent commander: April 1944: OblztS Erich Faust
Operational patrols: 10
Allied vessels sunk: 3
Fate: Sunk on 14 August 1944 (no survivors)

U-381 (Type VIIC)
Builder: Howaldtswerke, Kiel
Commissioned: 25 February 1942
Operational in flotilla: 1 October 1942
Commander: Kptlt Wilhelm-Heinrich Graf von Pückler und Limburg
Operational patrols: 3
Allied vessels sunk: 0
Fate: Sunk on or after 21 May 1943 (no survivors)

U-382 (Type VIIC)
Builder: Howaldtswerke, Kiel
Commissioned: 25 April 1942
Operational in flotilla: 1 October 1942
First commander: Kptlt Herbert Juli
Subsequent commanders: April–November 1943: OblztS Leopold Koch; November 1943 – July 1944: OblztS Rudolf Zorn; August 1944: OblztS Hans-Dietrich Wilke
Operational patrols: 6
Allied vessels sunk: 0
Fate: Transferred to 33rd Flotilla on 1 November 1944; sunk in January 1945; raised on 20 March 1945; scuttled on 8 May 1945

U-442 (Type VIIC)
Builder: F. Schichau GmbH, Danzig
Commissioned: 21 March 1942
Operational in flotilla: 1 October 1942
Commander: Fgkpt Hans-Joachim Hesse
Operational patrols: 2
Allied vessels sunk: 4
Fate: Sunk on 12 February 1943 (no survivors)

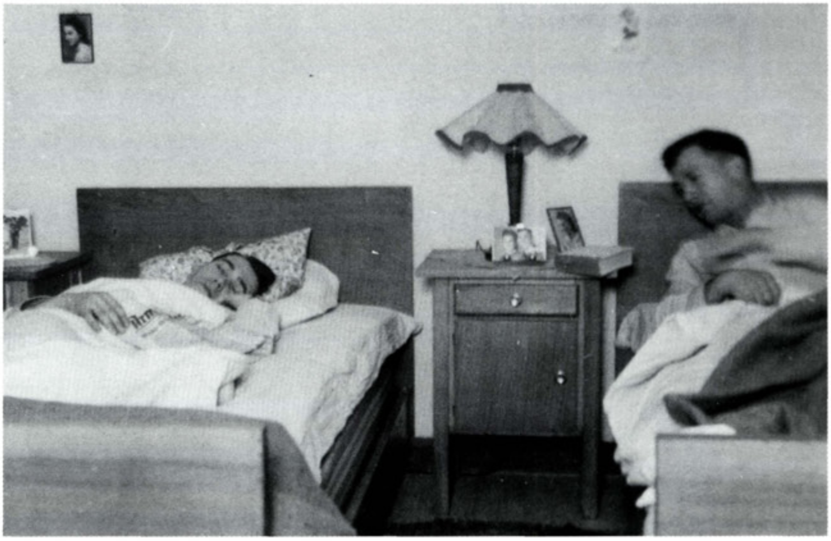
U-602 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 29 December 1941
Operational in flotilla: 1 October 1942
Commander: Kptlt Philipp Schüler
Operational patrols: 4
Allied vessels sunk: 1
Fate: Transferred to 29th Flotilla on 1 January 1943; sunk on or soon after 19 April 1943 (no survivors)

U-624 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 28 May 1942
Operational in flotilla: 1 October 1942
Commander: OblztS Ulrich Graf von Soden-Frauenhofen
Operational patrols: 2
Allied vessels sunk: 8
Fate: Sunk on 7 February 1943 (no survivors)

U-662 (Type VIIC)
Builder: Howaldtswerke Hamburg AG, Hamburg
Commissioned: 9 April 1942
Operational in flotilla: 1 October 1942
First commander: Kptlt Wolfgang Hermann
Subsequent commander: March 1943: Kptlt Heinz-Eberhard Müller
Operational patrols: 4
Allied vessels sunk: 3
Fate: Sunk on 21 July 1943 (3 survivors)

U-224 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 20 June 1942
Operational in flotilla: 1 November 1942
Commander: OblztS Hans-Karl Kosbadt
Operational patrols: 2
Allied vessels sunk: 2
Fate: Sunk on 13 January 1943 (1 survivor)

U-707 (Type VIIC)
Builder: H.C. Stülcken & Sohn, Hamburg
Commissioned: 1 July 1942
Operational in flotilla: 9 December 1942
Commander: OblztS Günter Gretschel
Operational patrols: 3
Allied vessels sunk: 2
Fate: Sunk on 9 November 1943 (no survivors)



Atlantic. Many of the 7th Flotilla's boats had been at sea for months, being re-supplied by U-tankers, and by December 1942 many of these boats had to return to St Nazaire for a lengthy refit. After the loss of five boats during July and August, the squadron was under strength. In addition, *U-88* (Kptlt Heino Bohmann) was transferred to the 11th Flotilla, based in Norway, and *U-A* was withdrawn from active service. During the same two months, only two boats became operational in the flotilla: *U-607* (Kptlt Ernst Mangersen) and *U-704* (Kptlt Horst-Wilhelm Kessler). This meant that by the end of August the flotilla was reduced to 15 boats, all Type VIIC craft. Reinforcements arrived during late 1942, and by October the U-boats which needed extensive overhauls were matched by the number of new boats embarking on their first patrols. These new boats and commanders included *U-410* (Kptlt Kurt Sturm), *U-221* (ObltzS Hans-Hartwig Trojer) and *U-617* (Kptlt Albrecht Brandi), a trio who became some of the flotilla's most successful captains. Brandi became renowned for sinking four ships on his first operational patrol. After one additional patrol he was sent to the Mediterranean, where he was attached to the 29th Flotilla. The flotilla's remaining aces (Hans-Jürgen Hellriegel, Erich Topp, Karl Thurmann, Wilhelm Schulze and Gerd Kelbling) had all taken trainee U-boat commanders with them on their patrols, and continued to pass on their knowledge to the newcomers. The one serious loss to the flotilla during the closing months of 1942 was *U-98*. Kvkpt Wilhelm Schultze handed over command of the boat to the less experienced OblztS Kurt Eichmann in October 1942, and a month later, on 15 November, she was depth charged off Gibraltar, and sank with all hands.

Erich Topp was transferred to a shore post in September 1942, becoming commander of the 27th (Training) Flotilla, where he was responsible for preparing the next generation of U-boat commanders. His 'Red Devil' boat (*U-552*) was given to Kptlt Klaus Popp. *U-552*, together with *U-575* (Günther Heydemann) and two new boats, *U-442* (Hans-Joachim Hesse) and *U-381* (Count Wilhelm-Heinrich Pückler und Limburg) took part in the attack on convoy TM.1 in late December 1942. This operation involved 15 U-boats operating in several small groups to attack a vital tanker convoy bound for Britain. Dönitz succeeded in placing these groups along the convoy's path, resulting in heavy Allied losses. The year thus ended on a high note for the flotilla, but any high hopes were dashed by the losses incurred during the following few months.

At the end of December 1942 the 7th U-boat Flotilla consisted of 22 boats, not counting the three that had been transferred to training flotillas. The trouble with this was

Reinforcements, January & February 1943

U-266 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 24 June 1942
Operational in flotilla: 1 January 1943
Commander: OblzS Hannes Leinemann
Operational patrols: 2
Allied vessels sunk: 4
Fate: Sunk on 15 May 1943 (no survivors)

U-300 (Type VIIC)
Builder: Flender-Werke, Lübeck
Commissioned: 7 July 1942
Operational in flotilla: 1 January 1943
Commander: OblzS Karl-Franz Heine
Operational patrols: 2
Allied vessels sunk: 1
Fate: Transferred to 11th Flotilla on 1 October 1944; sunk on 22 February 1945 (41 survivors)

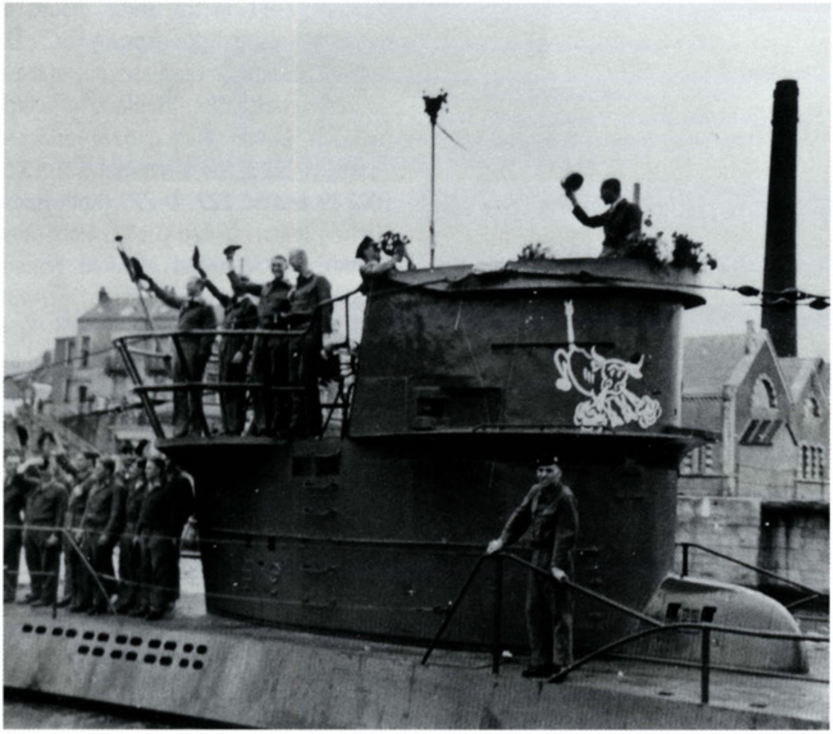
U-303 (Type VIIC)
Builder: Flender-Werke, Lübeck
Commissioned: 7 July 1942
Operational in flotilla: 1 January 1943
Commander: OblzS Karl-Franz Heine
Operational patrols: 2
Allied vessels sunk: 1
Fate: Transferred to 29th Flotilla on 1 April 1943; sunk on 21 May 1943 (28 survivors)

U-265 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 6 June 1942
Operational in flotilla: 1 February 1943
Commander: OblzS Leonhardt Auffhammer
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 3 February 1943 (no survivors)

U-267 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 11 June 1942
Operational in flotilla: 1 February 1943
First commander: OblzS Otto Tinschert
Subsequent commander: July 1944: OblzS Bernhardt Kneiper
Operational patrols: 7
Allied vessels sunk: 0
Fate: Transferred to 33th Flotilla on 13 October 1944; scuttled on 4 May 1945

U-358 (Type VIIC)
Builder: Flensburger Schiffsbau, Flensburg
Commissioned: 15 August 1942
Operational in flotilla: 1 February 1943
Commander: OblzS Rolf Manke
Operational patrols: 6
Allied vessels sunk: 5
Fate: Sunk on 1 March 1944 (1 survivor)

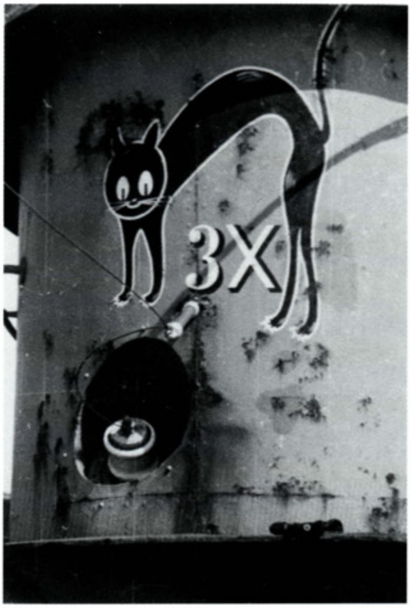
U-448 (Type VIIC)
Builder: F. Schichau GmbH, Danzig
Commissioned: 1 August 1942
Operational in flotilla: 1 February 1943
Commander: OblzS Helmut Dauter
Operational patrols: 5
Allied vessels sunk: 0
Fate: Sunk on 14 April 1944 (42 survivors)



Far left: Whilst the 'Lords', as sailors of the lower ranks were called, lived in fairly plain dormitory-type accommodation where they often had to do their own cleaning, non-commissioned officers were provided with more fitting accommodation. This shows the type of two-bed room provided for petty and warrant officers.

Left: Sun beds are not a modern invention and existed during World War II. Some boats even carried ultra-violet lamps for treating men at sea. This photo shows men from the 3rd U-boat Flotilla in La Rochelle enjoying the facilities of the sun room.

Below left: The pumping station in the background, which is still standing, confirms this shows a boat leaving the New (South) Entrance at St Nazaire while on its way out to sea. Although all forms of identification were supposed to have been removed at sea, it was common for U-boats to go into battle with their flotilla or their own boat's emblem still proudly displayed on the conning tower.



Above: Individual boat emblems are recorded in Georg Högel's excellent book, *U-boat Emblems of World War Two*. This black cat first appeared on the most successful boat of the war (*U-48*) when it was still part of the 7th U-Flotilla. Later the cat was adopted by others, especially *U-564* under Teddy Suhren, who gained his Knight's Cross as first watch officer of *U-48*. The radio aerial with its special intake can be seen below the cat.

that the flotilla had just lost three of its best commanders: Karl Thurmann, who moved to the 2nd Flotilla at La Pallice, and Gerd Kelbling and Albrecht Brandi, who moved to the new Mediterranean command, the 29th U-boat Flotilla. However good the new influx of boats and commanders might be, few could match the skills of these three men.

Experienced commanders were becoming a rarity. Since the outbreak of the war, 160 U-boats and their commanders had been lost, and the newly-trained commanders lacked hard-won experience, and often lacked the skill and aggressiveness of earlier commanders. Dönitz was having to rely on quantity rather than quality. This influx of new crews came at the same time as the Allies introduced new radar sets for aircraft and

Reinforcements, March–May, 1943

U-338 (Type VIIC)
Builder: Nordseewerke, Emden
Commissioned: 25 June 1942
Operational in flotilla: 1 March 1943
First commander: ObltzS Manfred Kinzel
Operational patrols: 3
Allied vessels sunk: 4
Fate: Sunk on or after 20 September 1943 (no survivors)

U-359 (Type VIIC)
Builder: Flensburger Schiffsbau, Flensburg
Commissioned: 5 October 1942
Operational in flotilla: 1 March 1943
Commander: ObltzS Heinz
Operational patrols: 3
Allied vessels sunk: 0
Fate: Sunk on 26 July 1943 (no survivors)

U-641 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 24 September 1942
Operational in flotilla: 1 March 1943
Commander: Kptlt Horst Rendtel
Operational patrols: 4
Allied vessels sunk: 0
Fate: Sunk on 19 January 1944 (no survivors)

U-227 (Type VIIC)
Builder: Germaniawerft, Kiel
Commissioned: 22 August 1942
Operational in flotilla: 1 April 1943
Commander: ObltzS Jürgen Küntze
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 30 April 1943 (1 survivor)

U-710 (Type VIIC)
Builder: H.C. Stülcken & Sohn, Hamburg
Commissioned: 2 September 1942
Operational in flotilla: 1 April 1943
Commander: ObltzS Dietrich von Carlewitz
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 24 April 1943 (no survivors)

U-449 (Type VIIC)
Builder: F. Schichau GmbH, Danzig
Commissioned: 22 August 1942
Operational in flotilla: 1 May 1943
Commander: ObltzS Hermann Otto
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 24 June 1943 (no survivors)

U-650 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 26 November 1942
Operational in flotilla: 1 May 1943
First commander: ObltzS Ernst von Witzendorff
Subsequent commanders: July–November 1943: Kptlt Otto Tinschert; November 1943 – June 1944: Kptlt Ernst von Wintzendorff; July 1944 to transfer: ObltzS Rudolf Zorn
Operational patrols: 7
Allied vessels sunk: 0
Fate: Transferred to 11th Flotilla on the 1 October 1944; sunk on or soon after 9 December 1944 (no survivors)

escort vessels. It was becoming increasingly dangerous to operate on the surface.

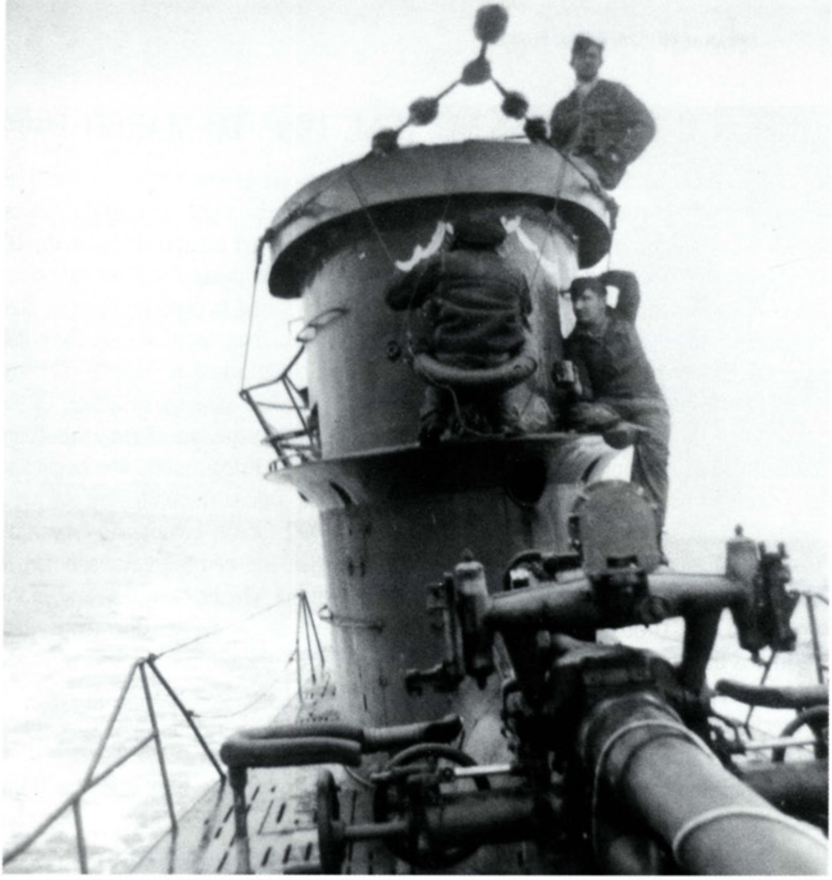
The veteran boat *U-69* (Kptlt Ulrich Gräf), which had once been associated with Jost Metzler, was lost off Newfoundland on 17 February 1943 after being spotted by radar on the surface. Increasingly, packs were being forced to disperse when their positions were discovered by airborne radar or radar pickets on the edge of convoys. It was fast becoming a different kind of war, where technology was becoming increasingly important.

It was not until March that serious wolfpack attacks were attempted against convoys.

From 7–11 March, three groups of boats intercepted the convoy SC.121, sinking 12 ships. A week later, one of these groups, wolfpack 'Neuland' (which included *U-406* and *U-618*) attacked convoy HX.228, and a week later attacked HX.229 and SC.122. *U-221* (Kptlt Hans-Hartwig Trojer), *U-410* (ObltzS Horst-Arno Fenski), *U-338* (Kptlt Manfred Kinzel), *U-359* (ObltzS Heinz Förster), *U-435* (Kvkpt Siegfried Strelow) and *U-662* (Kptlt Heinz-Eberhard Müller) sank 23 ships between them, the majority during the attack on SC.122 on 17 March. Although *U-435* was not officially a 7th Flotilla boat, she was attached to the flotilla as a temporary secondment. Vessels from other flotillas sank another dozen merchantmen. All this was achieved with the loss of only one U-boat. Dönitz was delighted, but neither he nor his crews could have foreseen that this was the last successful wolfpack attack on a convoy.

In the period April–May 1943 some 21 boats from the flotilla operated in the North Atlantic but, increasingly, attempts to mass boats into groups and then intercept convoys were being frustrated. Most convoys now enjoyed air protection, including fighters equipped to attack U-boats, and radar-equipped search aircraft. If this were not enough, a series of gales battered the Atlantic, making attacks virtually impossible. Losses were also mounting. The flotilla lost six boats in April and May, and only four entered service. Two of the losses (*U-227* and *U-710*) were new additions to the flotilla, and were sunk by Allied aircraft on their first patrol.

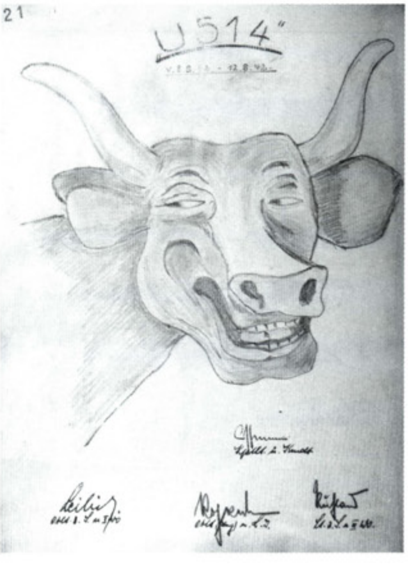
The average tonnage sunk per operational boat per day was dropping rapidly. In November 1942 it stood at 281 tons. By the following February, this had dropped to 111 tons, and by May it was half that, at a mere 64 tons. The U-boats crews were finding it almost impossible to penetrate the anti-submarine defences of most Atlantic convoys by May, and more and more boats were being lost in the attempt. Some 41 U-boats were sunk in May alone, the highest monthly loss of the war. However, only two of these were 7th Flotilla boats: *U-381* and *U-266*. The writing was on the wall even so, and on 24 May 1943 Dönitz conceded defeat. The *Rudeltaktik* had proved a costly failure.



Left: Touching up the emblem of a frog sitting in the rain under an umbrella on *U-95* (Kptlt Gerd Schreiber). The 88mm deck gun in the foreground indicates that this picture was taken towards the beginning of the war.

Below left: *U-69* (Kptlt Jost Metzler) in St Nazaire. Not everybody used the prescribed stencil and, having an artistically gifted first watch officer, *U-69* agreed to produce its own snorting bull emblem on the conning tower. The story goes that Hans-Jürgen Auffermann did not know what the official picture looked like and copied one from a packet of French cheese to produce the famous laughing cow. This became better-known than *U-69*'s original emblem, which is seen in this picture.

Below: Later, when Hans-Jürgen Auffermann became commander of the new *U-514*, he took the emblem with him to the 10th U-Flotilla in Lorient. This page from the 5th U-Flotilla's guest book indicated that *U-514* set out with the laughing cow emblem right from the start.



Above right: This picture of men from *U-453* in Salamis during 1944 shows the type of smoky atmosphere common in many of the bars and bases. In France, the majority took to drinking wine because it was much cheaper than in the north German naval bases, but there was also a strong beer drinking contingent. There is a story of a land-based officer complaining to a U-boat commander that his lowest ranks were making too much noise while drinking champagne, which he thought should be reserved for officers. Finding that his men were celebrating a birthday, the commander gave them some money to buy more champagne and allowed the revelry to continue.

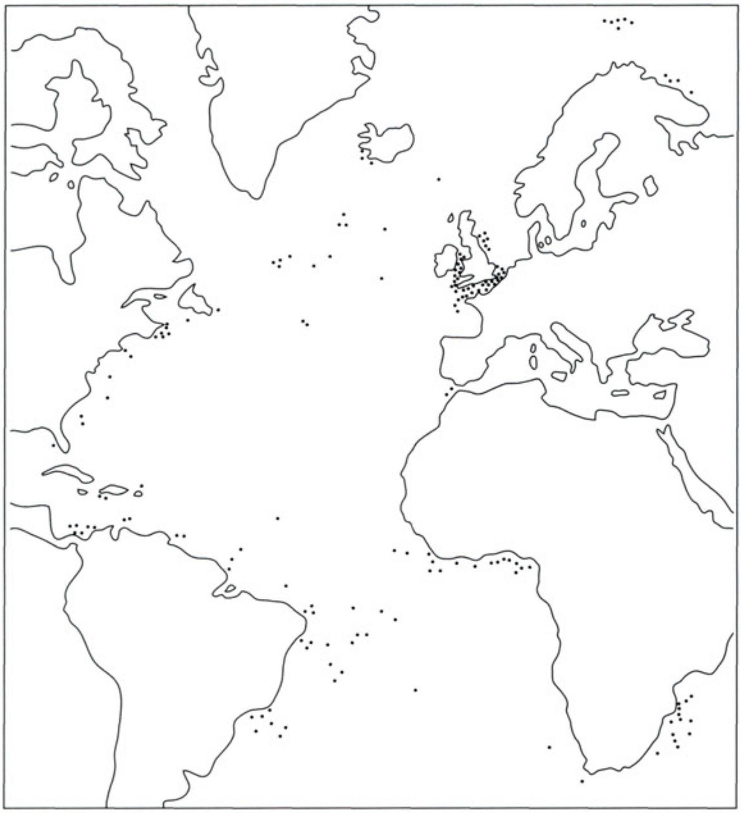
Below right: Closing the air gap was critical to the success of Allied anti-submarine operations. This graphic shows how the Atlantic was 'bridged'.

Below: Allied shipping losses after the end of the Battle of the Atlantic, from June 1943 until May 1945. Losses were small compared to the earlier phases of the war, and U-boat activity was largely restricted to British home waters.

DEFEAT IN THE ATLANTIC: JUNE 1943 TO MARCH 1944

By the summer of 1943, aircraft were seen as the worst enemy of the U-boat. Flak armament was increased, and boats were re-deployed to the south, around the Azores, which was thought to be beyond Allied air cover. This proved a costly error, as the US Navy deployed five escort carriers in the area, and losses continued. The most dangerous area was now considered the Bay of Biscay, which boats had to cross en route to their hunting grounds. Dönitz ordered that boats travel together, to maximise their flak strength. This proved another failure, as the Allies simply attacked in larger formations. Of the 54 U-boats sunk during June and July 1943, 43 were sunk by air attack. Of the seven losses to the flotilla during these two months, aircraft sank four of the boats. There were still over 200 operational U-boats in service, but the Kriegsmarine was beginning to lose more boats than German shipyards could build. Dönitz responded by placing a greater emphasis on the construction of new Type XXI (ocean-going) and Type XXIII (coastal) boats, which could stay submerged for longer, and had a greater submerged speed. However, this would not influence the course of the Atlantic campaign and, in the meantime, the U-boat arm was haemorrhaging from heavy losses. Operations were restricted during August and early September, while twin 20mm flak guns were added to most operational U-boats, giving them some improved degree of anti-aircraft protection. The Wanze radar search receivers were also fitted, giving improved warning against aircraft equipped with airborne radar.

In mid-September 1943 Dönitz decided to send his boats back into the North Atlantic, hoping to take advantage of new torpedoes. Some 22 boats of wolfpack 'Leuthen' tried to attack convoys ON.202 and ONS.18, sinking three escorts and six merchant ships, for the loss of three U-boats. One of these was *U-338*, depth-charged by aircraft off Iceland on 20 September. Worse was to follow. On 27 September *U-221* commanded by Hans-Hartwig Trojer was sunk by an air attack off Ireland. Trojer was the last true ace in the flotilla, having sunk just under 70,000 tons of Allied shipping in five patrols. For the first time in two years, the squadron strength had dropped below 20 operational boats. Although the tactics employed by Dönitz were effective, his ability to direct his wolfpacks towards convoys was thwarted in part by the Allied ability to read signals transmitted by German Enigma machines. The packs and patrol lines were pulled out of the western Atlantic by October, as Dönitz concentrated his dwindling number of boats in the north-east Atlantic, where concentration of force and increased German aerial reconnaissance was expected to overcome the problems encountered in trying to intercept convoys.



For months, the U-boat fleet had tried to come to grips with the Atlantic convoys, and for the most part it had failed. Losses continued both in the North Atlantic around the Azores, and in the Bay of Biscay. Although the strength of the 7th Flotilla was increased by the addition of 11 new boats during the second part of 1943, and only two boats were lost during the same period (*U-274* and *U-707*), the U-

Reinforcements, June–August, 1943

U-647 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 5 November 1942
Operational in flotilla: 1 June 1943
Commander: Kptlt Willi Hertin
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on or soon after 28 July 1943 (no survivors)

U-667 (Type VIIC)
Builder: Howaldtswerke Hamburg AG, Hamburg
Commissioned: 21 October 1942
Operational in flotilla: 1 June 1943
First commander: Kptlt Heinrich Schroeteler
Subsequent commander: July 1944: Kptlt K-H. Lange
Operational patrols: 5
Allied vessels sunk: 4
Fate: Sunk on 25 August 1944 (no survivors)

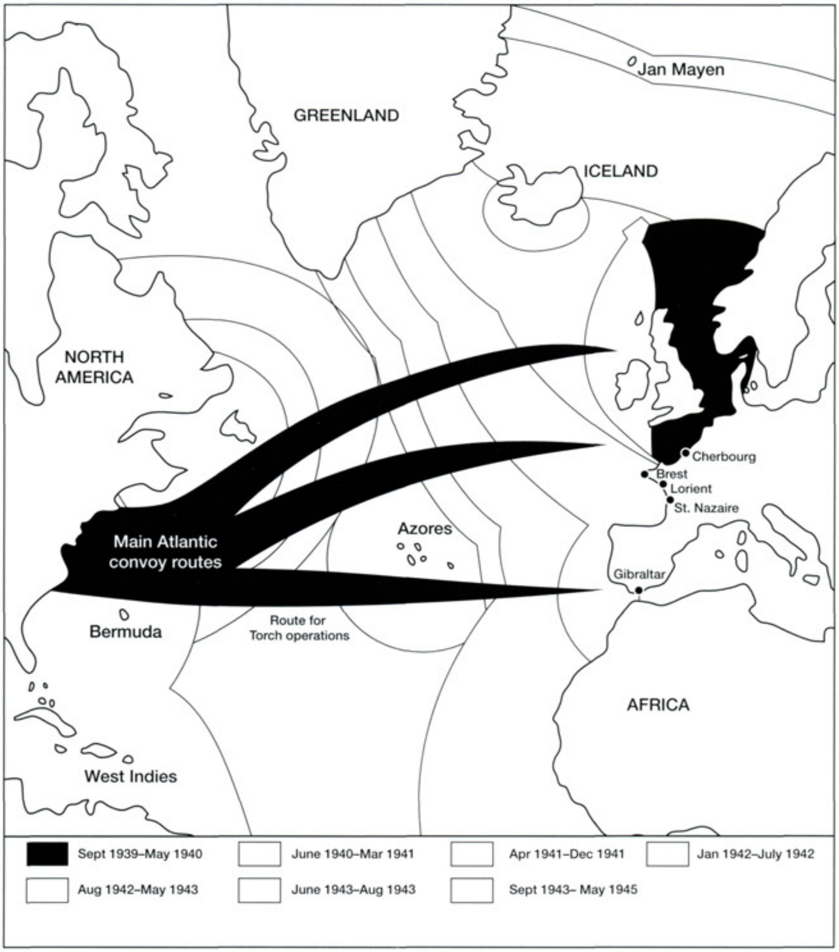
U-387 (Type VIIC)
Builder: Howaldtswerke, Kiel
Commissioned: 24 November 1942
Operational in flotilla: 1 July 1943
Commander: ObltzS Rudolf Büchler
Operational patrols: 15
Allied vessels sunk: 0
Fate: Transferred to 13th Flotilla on 1 November 1943; sunk on 9 December 1944 (no survivors)

U-274 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 7 November 1942
Operational in flotilla: 1 August 1943
Commander: ObltzS Günther Jordan
Operational patrols: 2
Allied vessels sunk: 0
Fate: Sunk on 23 October 1943 (no survivors)

U-281 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 27 February 1943
Operational in flotilla: 1 August 1943
Commander: ObltzS Heinz von Davidson
Operational patrols: 4
Allied vessels sunk: 0
Fate: Transferred to 33rd Flotilla, 10 November 1944; surrendered to Allies at end of war

U-714 (Type VIIC)
Builder: H.C. Stülcken & Sohn, Hamburg
Commissioned: 10 February 1943
Operational in flotilla: 1 August 1943
Commander: ObltzS Hans-Joachim Schwebcke
Operational patrols: 6
Allied vessels sunk: 2
Fate: Transferred to the 33rd Flotilla on 11 November 1944; sunk on 14 March 1945 (no survivors)

U-962 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 11 April 1943
Operational in flotilla: 1 August 1943
Commander: Kptlt Ernst Leisberg
Operational patrols: 2
Allied vessels sunk: 0
Fate: Sunk on 8 April 1944 (no survivors)


Jan Mayen
GREENLAND
ICELAND
NORTH AMERICA
Cherbourg
Brest
Lorient
St. Nazaire
Azores
Main Atlantic convoy routes
Gibraltar
Bermuda
Route for Torch operations
AFRICA
West Indies
Sept 1939–May 1940
June 1940–Mar 1941
Apr 1941–Dec 1941
Jan 1942–July 1942
Aug 1942–May 1943
June 1943–Aug 1943
Sept 1943– May 1945

Reinforcements, September–December, 1943

U-278 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 16 January 1943
Operational in flotilla: 1 October 1943
Commander: ObltzS Joachim Franze
Operational patrols: 7
Allied vessels sunk: 2
Fate: Transferred to 11th Flotilla, 1 January 1944; surrendered to Allies at end of war

U-969 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 24 March 1943
Operational in flotilla: 1 October 1943
Commander: ObltzS Max Dobbert
Operational patrols: 3
Allied vessels sunk: 2
Fate: Transferred to 29th Flotilla on 1 March 1944; sunk on 6 August 1944 (no survivors

U-364 (Type VIIC)
Builder: Flensburger Schiffsbau, Flensburg
Commissioned: 3 May 1943
Operational in flotilla: 1 November 1943
Commander: ObltzS Paul-Heinrich Sass
Operational patrols: 2
Allied vessels sunk: 0
Fate: Sunk on or after 31 January 1944 (no survivors)

U-974 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 22 April 1943
Operational in flotilla: 1 November 1943
First commander: ObltzS Joachim Zaubitzer
Subsequent commander: November 1943: ObltzS Heinz Wolff
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 19 April 1944 (8 survivors)

U-976 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 5 May 1943
Operational in flotilla: 1 November 1943
First commander: ObltzS Raimund Tiesler
Operational patrols: 2
Allied vessels sunk: 0
Fate: Sunk on 25 March 1944 (49 survivors)

U-255 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 29 November 1941
Operational in flotilla: 1 December 1943 (transferred from 13th Flotilla)
First commander: Kptlt Reinhardt Reche
Subsequent commanders: June 1943 – August 1944: ObltzS Erich Harms
Operational patrols: 15
Allied vessels sunk: 12
Fate: Decommissioned 1 September 1944; recommissioned April 1945, surrendered to Allies at end of war

U-390 (Type VIIC)
Builder: Howaldtswerke, Kiel
Commissioned: 13 March 1943
Operational in flotilla: 1 December 1943
Commander: ObltzS Heinz Geissler
Operational patrols: 4
Allied vessels sunk: 1
Fate: Sunk on 5 July 1944 (1 survivor)

Reinforcements, January–March 1944

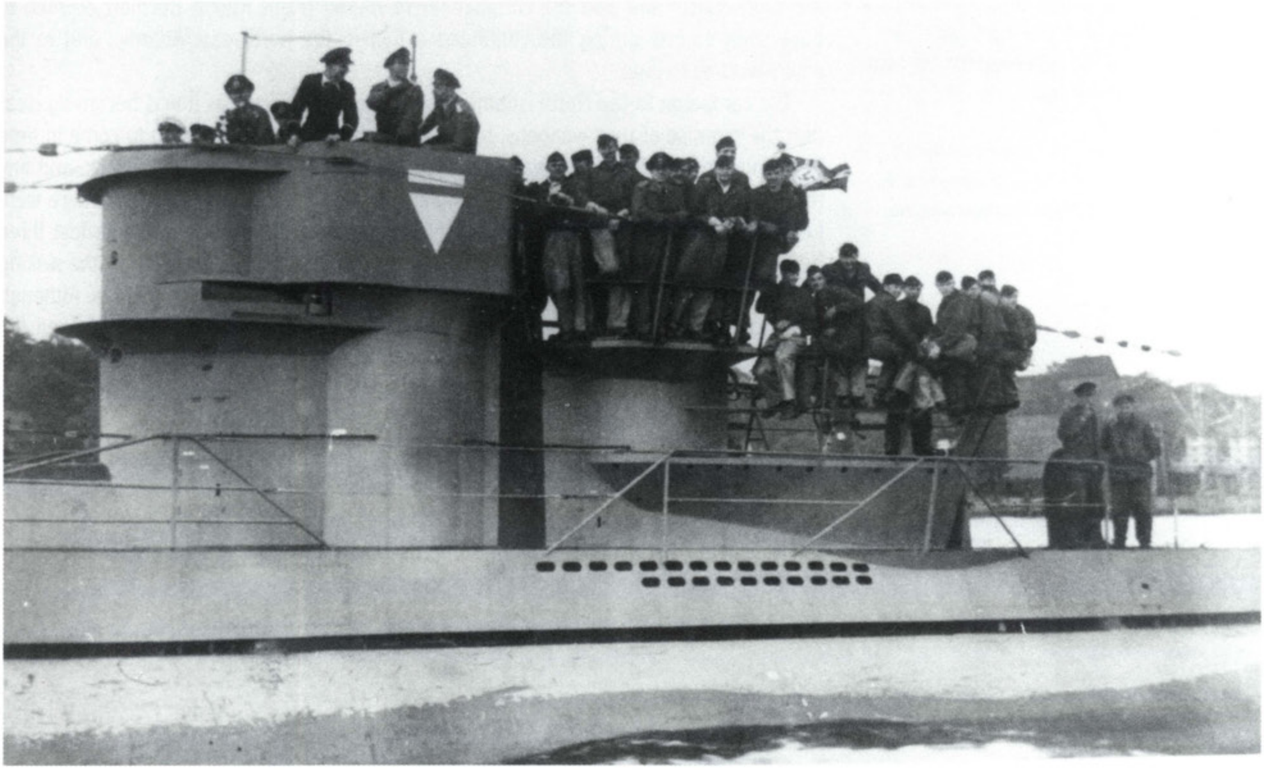
U-985 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 24 June 1943
Operational in flotilla: 1 January 1944
First commander: Kplt Horst-Wilhelm Kessler
Subsequent commander: April 1944: Kptlt Heinz Wolff
Operational patrols: 3
Allied vessels sunk: 1
Fate: Decommissioned due to damage on 15 November 1944; surrendered to Allies at end of war

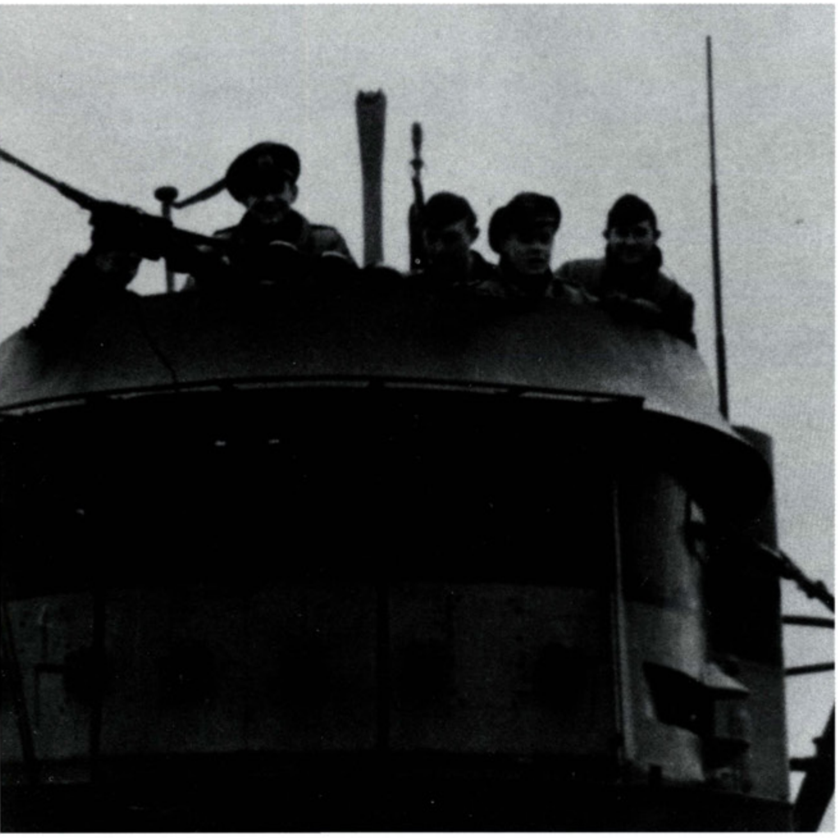
U-342 (Type VIIC)
Builder: Nordseewerke, Emden
Commissioned: 12 January 1943
Operational in flotilla: 1 March 1944
First commander: ObltzS Albert Hossenfelder
Operational patrols: 2
Allied vessels sunk: 0
Fate: Sunk on 17 April 1944 (no survivors)

boat arm in general was suffering; 23 U-boats were lost in October, 16 in November and another five in December 1943. As before, most of these losses were caused by Allied air attacks.

Any attempt to inflict enough damage on the British to force them from the war had long since been abandoned. The average tonnage sunk per operational U-boat per day fluctuated, but the general trend was downward. In September the average was 54 tons, and by December it had fallen by half again, to only 26 tons. By December 1943 Dönitz could still draw on over 160 operational U-boats (24 of these were attached to the 7th U-boat Flotilla), but these boats were failing to halt the flow of Allied shipping. Lacking decent aerial reconnaissance or radio intercept intelligence, the wolfpacks were unable to locate convoys. Even when they did, the increased number and efficiency of escorts and air cover made a sustained attack almost suicidal. Several tactics were tried, such as the deployment of long-range scout boats, or the use of smaller wolfpacks. By the start of 1944 it was becoming apparent that even these improved tactics were failing to produce results. The U-boats of the 7th Flotilla continued to achieve some success, but the damage inflicted on the enemy was nothing compared to the totals achieved two years before.

By January 1944 Dönitz had concentrated his force to intercept convoys to the Middle East off Ireland. As part of wolfpack 'Isegrim', *U-278* (ObltzS Joachim Franze) sank two ships from convoy JW.56 with a combined tonnage of 9,000 tons on 25 January 1944. He also claimed to have damaged the destroyer HMS *Hardy*. The change of operational area looked like it might result in even greater successes, but the British sent reinforcements. A hunting group commanded by Captain F. J. Walker. which included two escort carriers, steamed to the area, and sank 11 U-boats in as many days. The two sinkings achieved by Franze were to be the only successes of the flotilla that spring,





Above: A Type VIIC with the later conning tower arrangement to accommodate heavier anti-aircraft guns. The common configuration was two 20mm twins on the upper platform and a 20mm quadruple or single 37mm on the lower one. The bulge at the top of the conning tower housed a radar detector and some armoured shelter to protect lookouts when they came under aircraft attack.

Left: A variety of different radar sets were tried out in U-boats. This shows a rigid aerial where the entire boat had to turn in a circle if all-round radar vision was required. This gear did not last far beyond the experimental stages and special, rotating aerials were later fitted.

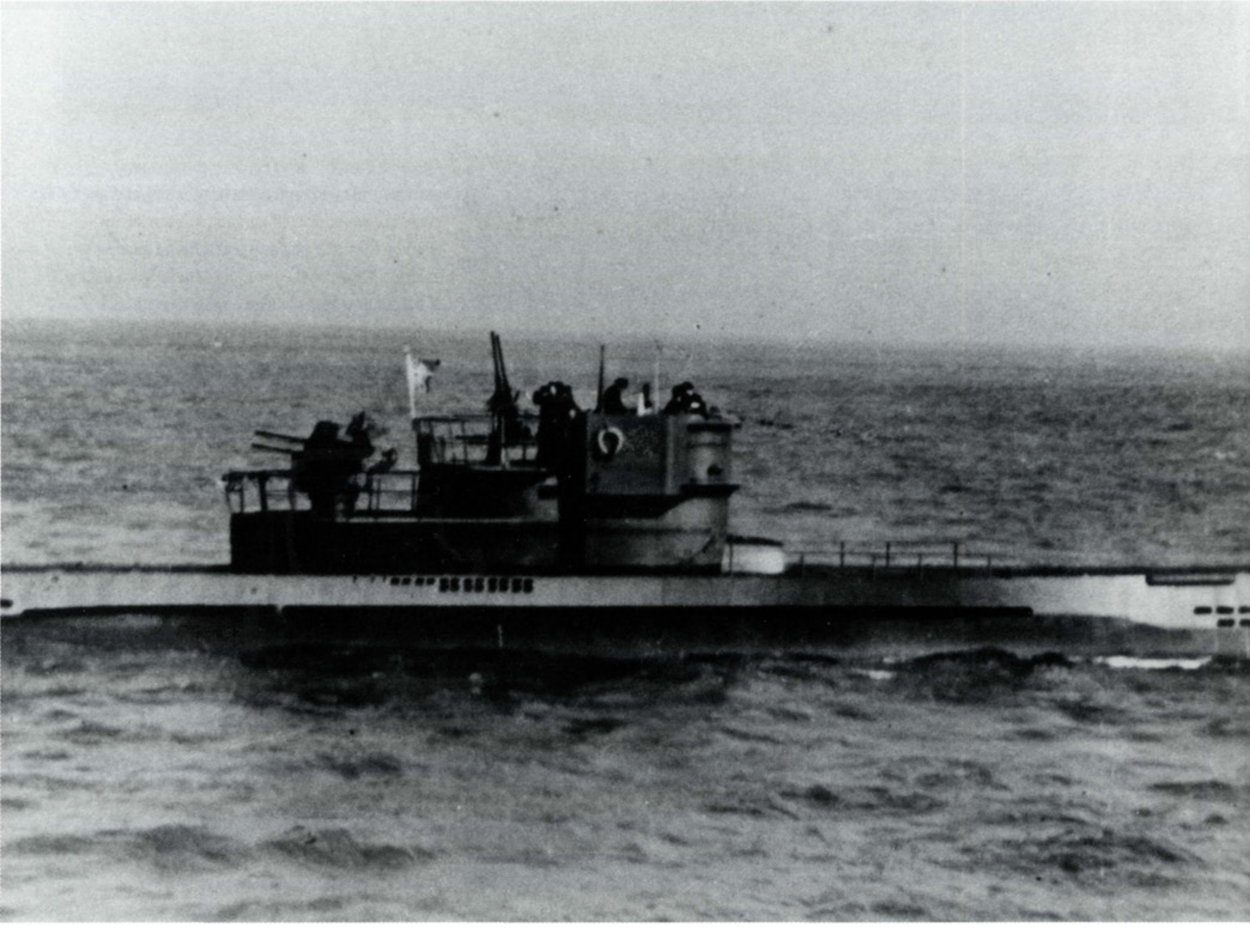
Right: The slender lines of an earlier type of conning tower. The additional anti-aircraft guns made the boats more unstable, reduced their underwater speed and increased the diving time.

Below: A Type VIIC with the heavier anti-aircraft armament, consisting of a 20mm quadruple on the lower and two 20mm twins on the upper platform.

although Franze and also the commander of *U-387* (Kptlt Rudolf Büchler) claimed to have sunk escorts during the continued action in the north-east Atlantic, and to the south-west of Ireland.

The campaign in the North Atlantic was drawing to a close, as it was becoming clear that the promise of new weapons, boats and technology was not going to come in time to change the course of the war. Convoys were proving too difficult to attack, and any real success was achieved against stragglers, or ships sailing independently. There were just too few of these targets to make much difference. In March the flotilla lost three boats, while two others were transferred to other flotillas. Of the three losses, the sinking of *U-575* (ObltzS Wolfgang Boehmer) was the most serious blow to the flotilla. Although no longer commanded by the U-boat ace Günther Heydemann, *U-575* remained the most successful boat in the flotilla. Flotilla strength had now dropped to 18 U-boats. As no more than a third of these were likely to be on patrol at any one time, it was hardly surprising that few successes were achieved.

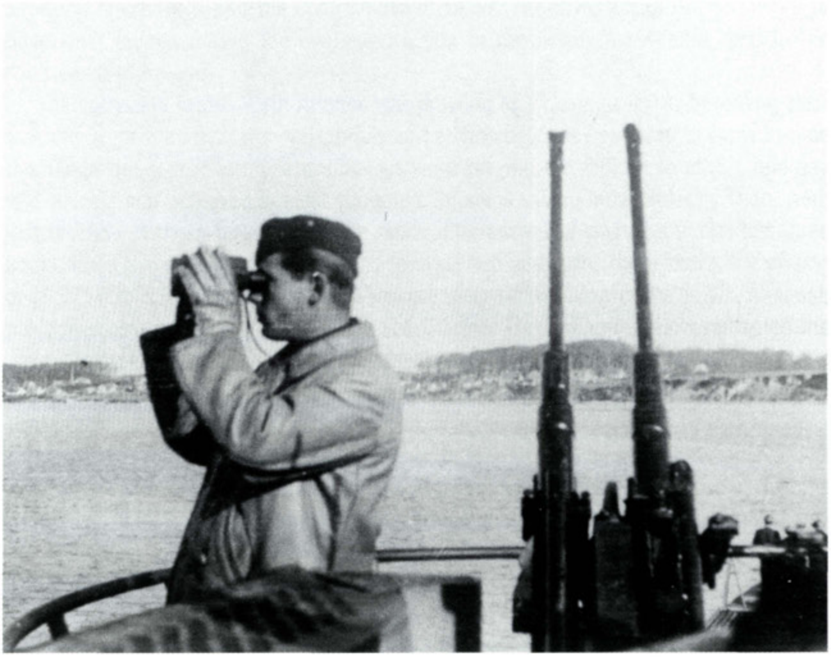
Dönitz was forced to bow to the inevitable. In March 1944 he abandoned *Rudeltaktik* for the second and last time. The Kriegsmarine was defeated because it lost its technological lead, and German shipyards proved unable to match the losses inflicted by the Allies, and to introduce new and improved boats in time to alter the course of the campaign. Dönitz had lost the Battle of the Atlantic.

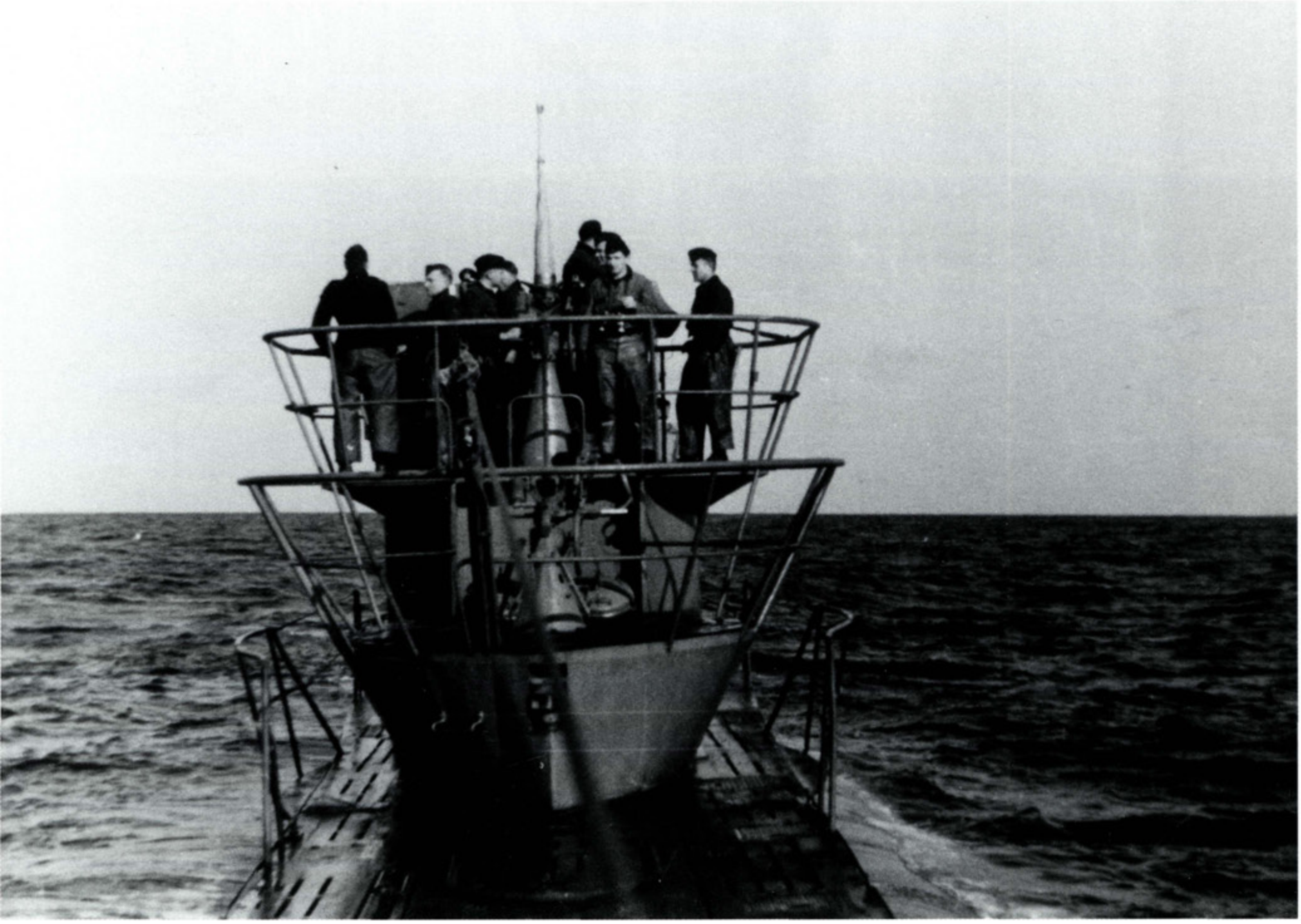


Right: The clean coat suggests this picture was taken before, rather than after, action. The double barrels of a 20mm twin anti-aircraft gun can be seen towards the right.

Far right: Another view of watchers on the conning tower. Note the torpedo aimer, which can clearly be seen in the foreground, although the special water resistant binoculars are not clipped in place.

Below: A Type VIIC with modified platforms to carry heavier anti-aircraft guns but with the weapons not yet fitted. The fact that there are so many men on deck would suggest this was probably taken in a safe part of the Baltic at a time when those waters were still out of reach of enemy aircraft.





DEFEAT IN EUROPE: APRIL 1944 – MAY 1945

Following the end of the Battle of the Atlantic, the U-boat flotillas stationed on the French coast were able to overhaul their battered U-boats, and to introduce new modifications during the relatively lax months of April and May 1944. The German High Command was becoming increasingly concerned by the threat posed by an Allied invasion of Europe. Consequently Dönitz was ordered to deploy his U-boats as a screen in the English Channel, or in the Bay of Biscay, where it was thought possible that an amphibious attack might be launched against the German naval bases.

Despite this apparent lull, losses continued. In April 1944 a number of U-boats were sent back into the Atlantic to intercept Allied troop convoys bringing reinforcements to Britain to take part in the expected Allied invasion. This was a rash move. Predictably it met with limited success and incurred heavy losses, including *U-448* off the Azores, and *U-342* and *U-765* in the north-west Atlantic. Other U-boats from the flotilla were picked off in the shallow coastal waters off Norway and France, as they maintained patrol lines in expectation of an Allied invasion. *U-974* went down in the coastal waters off southern Norway, and *U-962* was sunk in the Western Approaches to the English Channel.

When the invasion finally came on 6 June 1944, the flotilla had 15 boats at its disposal. Dönitz ordered a concentration of U-boats in the English Channel, and over 40 boats converged on the Normandy beachhead. *U-1191* was sunk in the English Channel on 12 June, one of 13 boats sunk during the Normandy campaign, either in the English Channel or the Bay of Biscay.

Reinforcements, April–July 1944

U-765 (Type VIIC)
Builder: Kriegsmarinewerft, Wilhelmshaven
Commissioned: 19 June 1943
Operational in flotilla: 1 April 1944
Commander: ObltzS Werner Wendt
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 6 May 1944 (11 survivors)

U-1191 (Type VIIC)
Builder: F. Schichau GmbH, Danzig
Commissioned: 9 September 1943
Operational in flotilla: 1 May 1944
Commander: ObltzS Peter Grau
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on or soon after 12 June 1944 (no survivors)

U-1192 (Type VIIC)
Builder: F. Schichau GmbH, Danzig
Commissioned: 23 September 1943
Operational in flotilla: 1 May 1944
Commander: ObltzS Herbert Zeissler
Operational patrols: 1
Allied vessels sunk: 0
Fate: Transferred to the 24th (Training) Flotilla on 1 August 1944; scuttled on 3 May 1945

U-397 (Type VIIC)
Builder: Howaldtswerke, Kiel
Commissioned: 20 November 1943
Operational in flotilla: 1 June 1944
Commander: ObltzS Fritz Kallipke
Operational patrols: 0
Allied vessels sunk: 0
Fate: Transferred to 23rd Flotilla on 1 July 1944 as training boat; scuttled on 5 May 1945

U-427 (Type VIIC)
Builder: Danziger Werft, Danzig
Commissioned: 2 June 1943
Operational in flotilla: 1 June 1944
Commander: Kptlt Carl-Gabriel Graf von Gudenus
Operational patrols: 5
Allied vessels sunk: 0
Fate: Transferred to the 11th Flotilla on 1 August 1944; surrendered to Allies at end of war

U-678 (Type VIIC)
Builder: Howaldtswerke Hamburg AG, Hamburg
Commissioned: 25 October 1943
Operational in flotilla: 1 June 1944
Commander: ObltzS Guido Hyronimus
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 7 July 1944 (no survivors)

U-980 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 27 May 1943
Operational in flotilla: 1 June 1944
Commander: ObltzS Hermann Dahms
Operational patrols: 1
Allied vessels sunk: 0
Fate: Sunk on 11 June 1944 (no survivors)

U-988 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 15 July 1943
Operational in flotilla: 1 June 1944
Commander: ObltzS Erich Dobberstein
Operational patrols: 1
Allied vessels sunk: 3
Fate: Sunk on 29 June 1944 (no survivors)

U-994 (Type VIIC)
Builder: Blohm & Voss, Hamburg
Commissioned: 2 September 1943
Operational in flotilla: 1 June 1944
First commander: ObltzS Wolf Ackermann
Subsequent commander: April 1944: ObltzS Volker Melzer
Operational patrols: 1
Allied vessels sunk: 0
Fate: Transferred to the 5th (Training) Flotilla on 6 July 1944; surrendered to Allies at end of war

Reinforcements, August 1944

U-285 (Type VIIC)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 15 May 1943
Operational in flotilla: 1 August 1944
First commander: OblzS Walter Otto
Subsequent commander: April 1944: OblzS Konrad Bornhaupt
Operational patrols: 3
Allied vessels sunk: 0
Fate: Transferred to 11th Flotilla, 1 October 1944; sunk on 15 April 1945 (no survivors)

U-300 (Type VIIC/41)
Builder: Bremer Vulkan-Vegesacker Werft, Bremen
Commissioned: 29 December 1943
Operational in flotilla: 1 August 1944
First commander: OblzS Fritz Hein
Operational patrols: 4
Allied vessels sunk: 4
Fate: Transferred to 11th Flotilla, 1 October 1944; sunk on 22 February 1945 (41 survivors)

U-310 (Type VIIC)
Builder: Flender-Werke, Lübeck
Commissioned: 24 February 1943
Operational in flotilla: 1 August 1944
First commander: LtzS Klaus Friedland
Subsequent commander: September 1943: OblzS Wolfgang Ley
Operational patrols: 6
Allied vessels sunk: 2
Fate: Transferred to 13th Flotilla on 5 September 1944; surrendered to Allies at end of war

U-1004 (Type VIIC/41)
Builder: Blohm & Voss, Hamburg
Commissioned: 16 December 1943
Operational in flotilla: 1 August 1944
Commander: OblzS Hartmuth Schimmelpfennig
Operational patrols: 2
Allied vessels sunk: 2
Fate: Transferred to the 11th Flotilla on 1 November 1944; surrendered to Allies at end of war

For the next two months, U-boats from the Atlantic bases continued to fight in the English Channel, but also concentrated off the Azores and Madeira, in an attempt to intercept additional Allied troop convoys. By this stage the Azores had become a killing ground, as aircraft from American escort carriers maintained a constant patrol. Three boats from the flotilla were lost in July and August, including *U-390* in the English Channel.

The breakout from the Normandy beachheads in August 1944 brought an end to the extensive use of St Nazaire and the other Atlantic bases by the U-boat flotillas. On 6 August American tanks reached the outskirts of Lorient, and cut the railway line linking St Nazaire with Germany. Although the two bases had substantial garrisons and were heavily defended, the logistical problems created by isolation made it imperative that the 7th U-boat Flotilla boats should abandon St Nazaire. From 10 August on, groups of boats made their way from Brest to Bergen in Norway, a run for safety around the west and north of Britain. Although both St Nazaire and Lorient continued to hold out until the end of the war, and though the flotilla headquarters remained in its home port, there were no more boats to command.

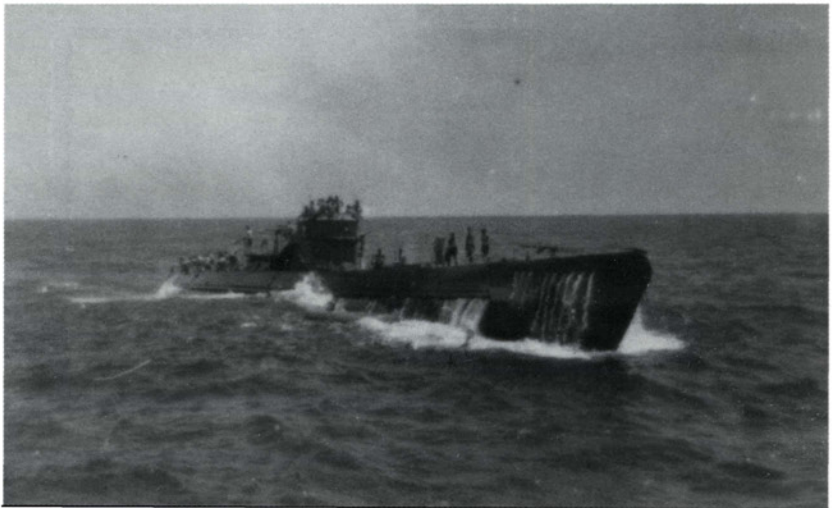
A defeated force, the bulk of the U-boats of the flotilla regrouped in Norway. Two of the boats failed to make the journey. *U-618* was sunk off St Nazaire on 14 August, and just over a week later *U-667* hit a mine in the Bay of Biscay and sank with all hands. Kvkpt Adolf Piening, the new flotilla commander, was forced to transfer the bulk of his force to other flotillas based in Norway. *U-1192* and *U-397* were sent back to Germany to join the 24th Training Flotilla. *U-300* and *U-650* went to the 11th Flotilla in Bergen in October. *U-397* was sent to Kiel, to form part of a new Baltic formation, the 33rd Flotilla, charged with holding back the Russian advance. In November *U-397* was joined by *U-281*, *U-267*, *U-382* and *U-714*. This left Piening with just two U-boats in the flotilla's pen at St Nazaire.

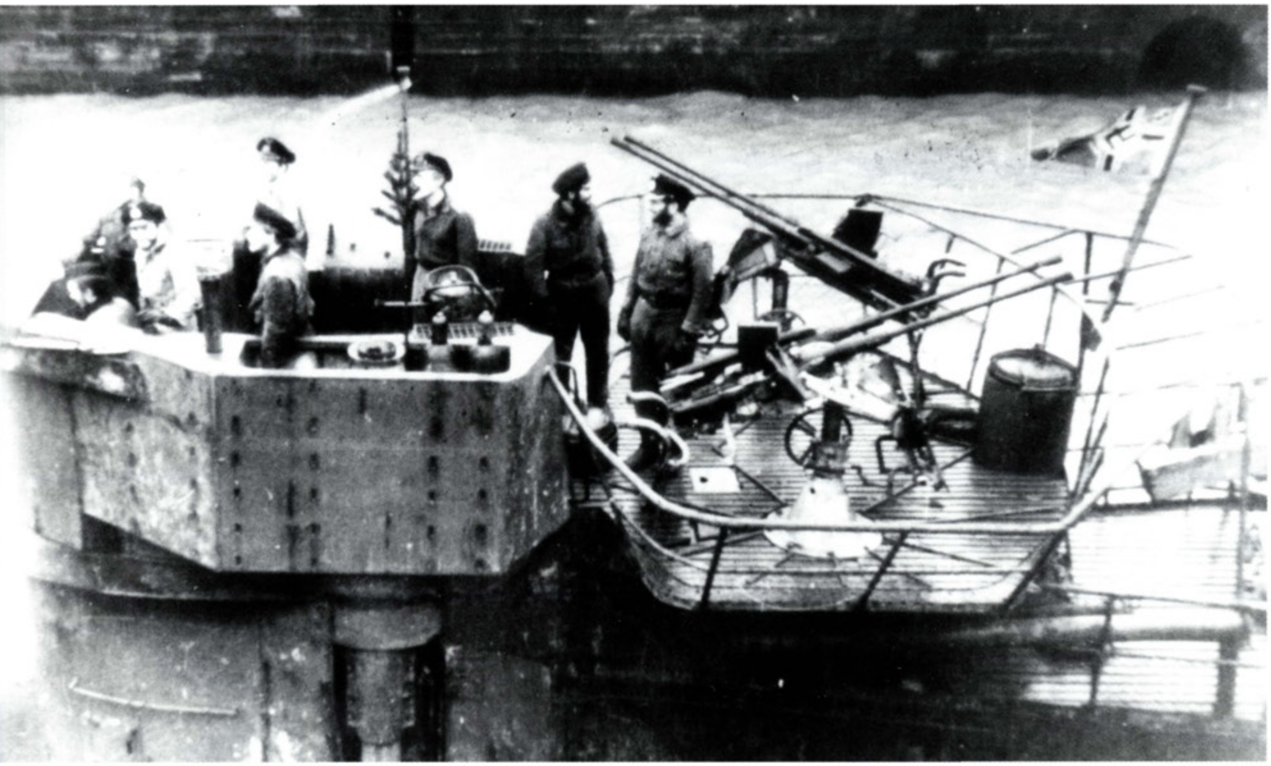
U-985 (Horst-Wilhelm Kessler) and the heavily damaged *U-255* were all that was left of the once-proud 7th U-boat Flotilla. Of these two, Kessler's boat had only sunk one Allied vessel of 1,700 tons during its three operational patrols. In late October 1944 this boat was badly damaged by a mine, and three weeks later, on 15 November, *U-985* was decommissioned. This left *U-255*, which had been decommissioned on 1 September 1944. The flotilla staff repaired her during the winter of 1944–45 using parts flown in by bomber, and on 1 March she was assigned to the 13th Flotilla, based in Norway. She never left St Nazaire, as Piening had other plans for her. On 30 April he used her to sow mines in the approaches to St Nazaire, off Les Sables d'Olonne. She sortied for the last time on 8 May, and surrendered at sea four days later. She was the last of the 7th U-boat Flotilla, a force which in its heyday had dominated the waters of the Atlantic. At the end, it could barely fight for control of its own base.

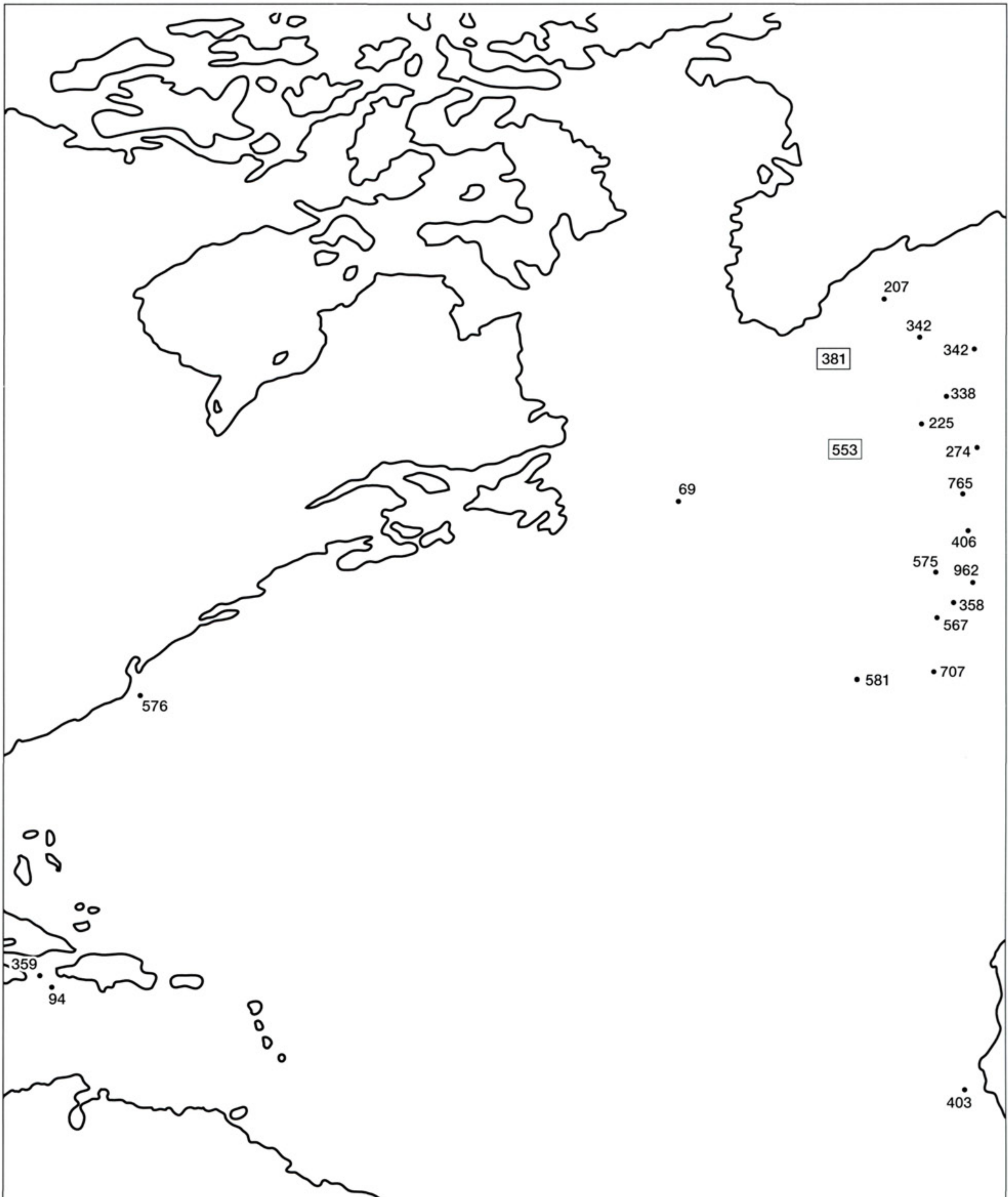
Right: A Type VII heaving in moderate seas.

Above right: Example of the later AA gun configuration – two 20mm twins. The hydrogen cylinders in the conning tower wall are for filling radar foxer balloons.

Far right: A later Type VII. The two spikes sticking up on the right are from the Metox radar detector. The dome at the base of the conning tower housed a magnetic compass and could be viewed by the helmsman through an illuminated periscope.



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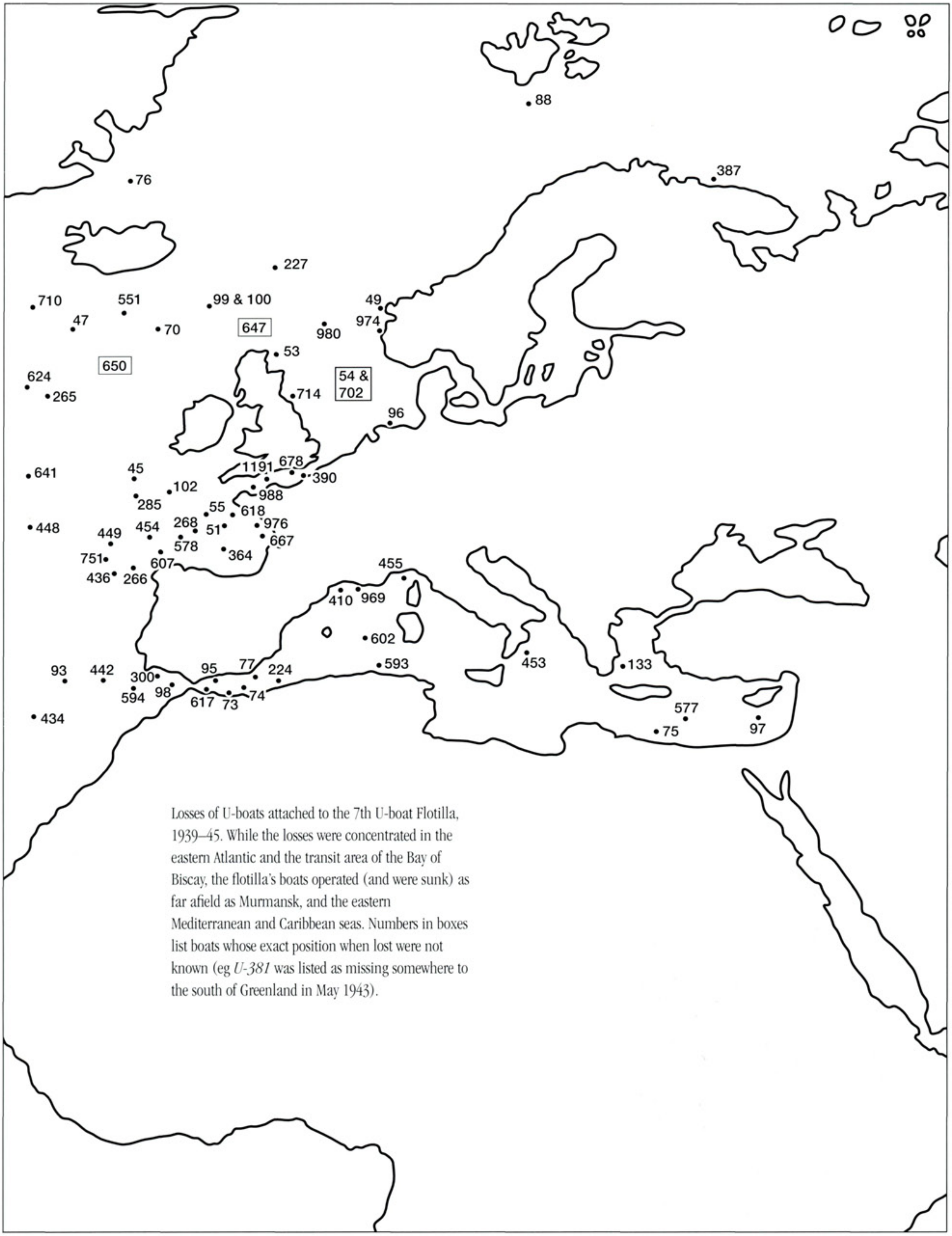
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Losses of U-boats attached to the 7th U-boat Flotilla, 1939–45. While the losses were concentrated in the eastern Atlantic and the transit area of the Bay of Biscay, the flotilla's boats operated (and were sunk) as far afield as Murmansk, and the eastern Mediterranean and Caribbean seas. Numbers in boxes list boats whose exact position when lost were not known (eg *U-381* was listed as missing somewhere to the south of Greenland in May 1943).

INSIGNIA, CLOTHING & EQUIPMENT

UNIFORMS

The Kriegsmarine produced detailed descriptions and instructions concerning uniforms and numerous authors have explored the subject in detail, so we can restrict our comments on the uniforms worn by U-boat crews to a brief summary.

Officers and non-commissioned officers wore a 'reefer' jacket, and although photographic evidence shows that U-boat officers wore a bewildering range of clothing, many continued to sport the reefer jacket at sea and in harbour. Cut from a fine dark-blue cloth, this double-breasted woollen jacket was secured by a double row of gold buttons. Rank was displayed by means of sleeve rings in gilt braid; one ring for a Leutnant, two for an Oberleutnant, two 'and a half' rings for a Kapitänleutnant, and three for a Korvettenkapitän. Above the rings, an officer carried the gilt badge of his arm of service: line, engineering or supply. Warrant officers had no sleeve rings, but displayed their rank by means of shoulder straps bearing pips and a branch of service emblem.

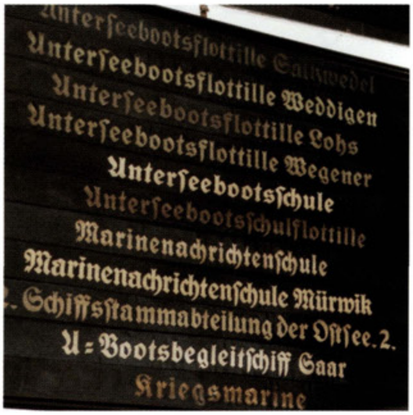
Trousers were cut from a similar material, worn with black shoes or ankle boots. Officially, the jacket was worn with a white shirt and black tie.

Ordinary sailors wore a 'pea jacket', a double-breasted short coat cut from dark-blue melton cloth. Nicknamed the 'Collani' after a firm of service outfitters, the jacket was normally worn over a sailor's jersey, and was decorated with two rows of five buttons. Plain blue collar patches for senior enlisted men denoted rank and branch of service, while all Collani carried sleeve badges which signified rank and trade. Although parade jackets were issued, these were almost never worn at sea, and were usually stored in the flotilla base.

The seaman's jersey or pullover was the standard form of clothing for ratings. This was a three-part garment comprising the jersey, a sailor's collar (*kieler Kragen*), and a black silk neckerchief. Knitted from dark-blue wool, this warm garment had button cuffs, a front vent which reached to mid-chest, and a falling collar. The *kieler Kragen* was worn over the collar, and secured by means of the neckerchief, in the traditional manner of sailor's jerseys in most of the world's navies. Rank and trade badges were worn on the left sleeve. The full rig was rarely worn on board a U-boat, although the jersey was often worn on its own. Ratings up to the rank of *Oberbootsman* (Chief Petty Officer) wore traditional sailor's bell-bottomed blue melton trousers, cut with a flap front. Footwear varied, but usually black sea boots or ankle boots were worn when on patrol.

A more popular dress for ratings was the work shirt and jacket. The jacket, issued to junior non-commissioned officers, was a single-breasted plain garment cut from a hard-wearing grey-green fabric, and fastened by four plastic buttons. The shirt resembled the rating's jersey, cut from heavy-duty white moleskin cloth, and was usually worn with

Below: Part of the hatband collection on display at the U-Boot-Archiv. Until September 1939 men wore hatbands with the name of their ship or flotilla, but this was discontinued for security reasons when the war started and replaced by a generic hat band bearing the name *Kriegsmarine*.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Unterſeebootsflottille Wegener
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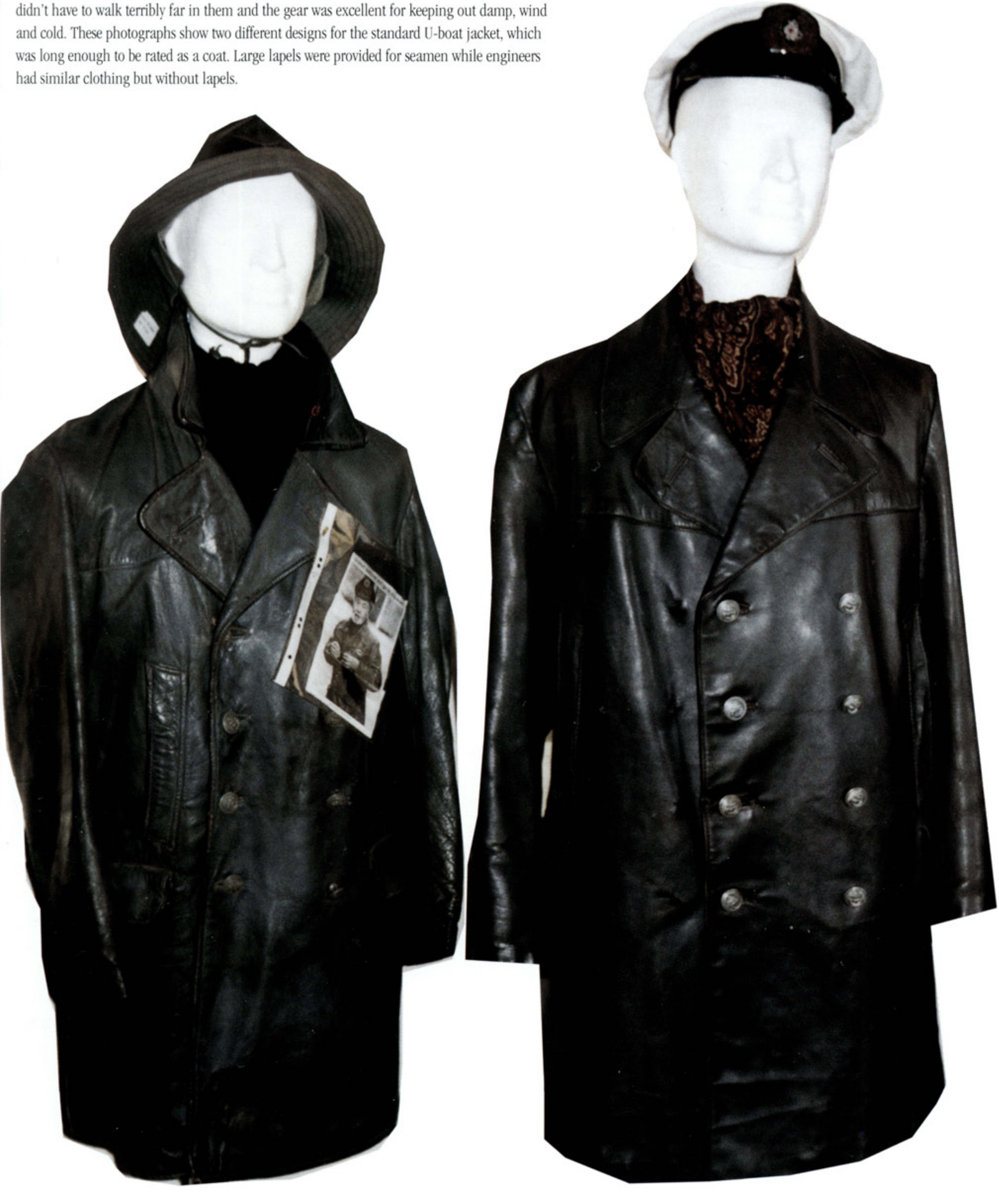
U=Bootsbegleitſchiff Saar
Kriegsmarine

Below: People used to modern, lightweight and waterproof fabrics would get a severe shock if they tried walking in U-boat leathers – they feel like a suit of armour. However, U-boat men didn't have to walk terribly far in them and the gear was excellent for keeping out damp, wind and cold. These photographs show two different designs for the standard U-boat jacket, which was long enough to be rated as a coat. Large lapels were provided for seamen while engineers had similar clothing but without lapels.



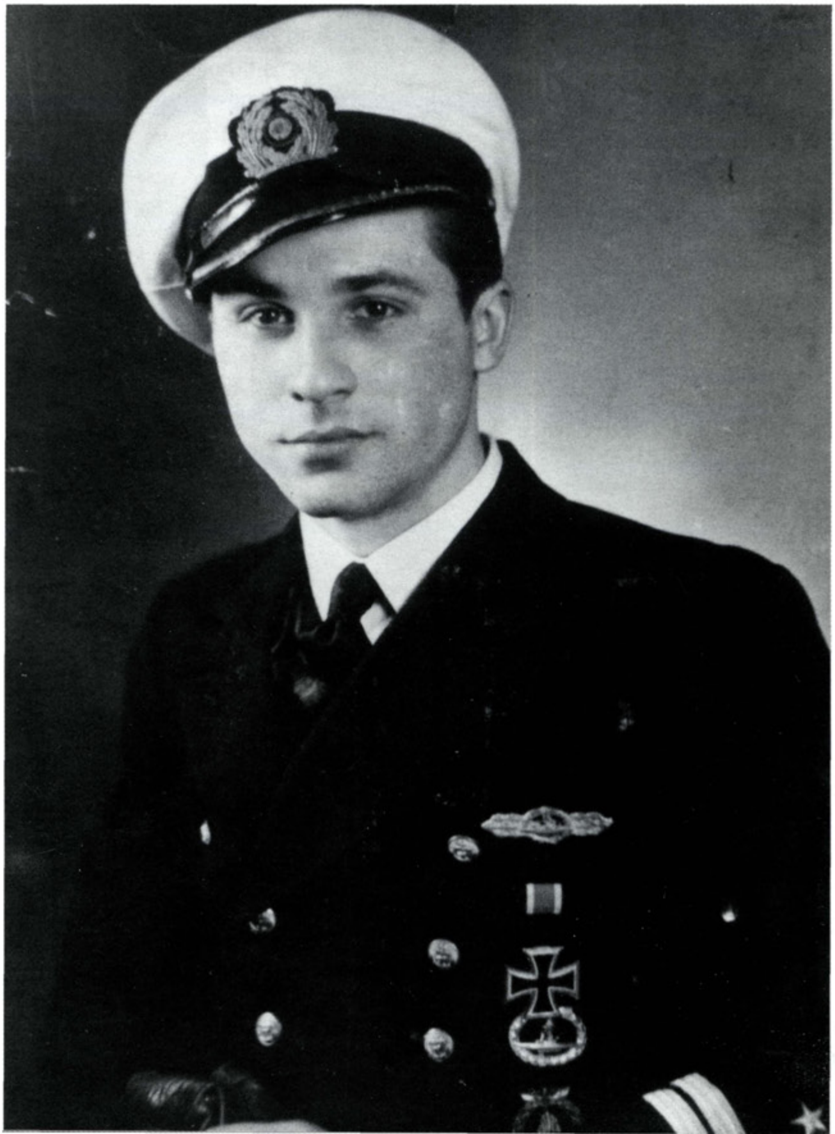
Right: Men of *U-195* (Kptlt Heinz Buchholz) relaxing on the upper deck. There were no hard and fast rules about the wearing of life jackets and the majority of boats only carried a few for men who had to work on the upper deck. Every crew member was issued with his own personal respirator, or *Dräger Lung*, which doubled up as submarine escape apparatus and life jacket. Ironically, before and after the war, the Lübeck based firm of Dräger also supplied British coal miners with breathing apparatus. The hat, known as the *Schiffche* or 'small ship', was very much favoured by U-boat men because it folded flat and did not need a lot of storage space.

Below right: Oberleutnant-zur-See Johannes Kühne as commander of *U-2371*. He learned his trade as second and then first watch officer of another 7th U-Flotilla boat, *U-387*. The badge at the bottom, partly hidden by his sleeve, is the Minesweeper War Badge. Above it is the U-boat Badge, then the Iron Cross First Class, a medal ribbon and then the U-Boat Clasp. These were awarded in Bronze and Silver to men who already held the U-boat Badge. It is said that the bronze version had to be worked for very hard, but silver clasps were awarded liberally towards the end of the war to use up existing stocks before the Allies captured them.

Opposite, Above: *U-455* under Kptlt Hans-Henrich Giessler in St Nazaire on 16 February 1942. Giessler commanded this boat for 14 months, before he was moved into a land-based position and from there to become first officer of the destroyer *Z-20* (*Karl Galster*). He was replaced by ObltzS Hans-Martin Scheibe, who went down in the Mediterranean with *U-455* during April 1944. The photo was taken while passing through the bigger of the two sea locks and judging by the background and the men's clean appearance, they are on their way out rather than coming home.

Opposite, Below: The 7th U-Flotilla boasted a large number of famous names in its ranks, including the aces Günther Prien, Otto Kretschmer and Herbert Schultze, and other celebrities such as Joachim Schepke. This shows Erich Topp of the 'Red Devil' boat (*U-552*) on the left and Engelbert (or 'Berti') Endrass wearing Oakleaves to the Knight's Cross in the centre, talking to Fritz Frauenheim. All wear white summer or tropical uniforms.

Augenblick



matching trousers. On occasions it could be worn with the *kieler Kragen*, but it was usually worn alone. Another variant was the field blouse, issued to new recruits in training. This field-grey garment was similar to that issued to the army, but with a plain grey collar, and a single-breasted front, secured by five buttons. These were supposed to have been worn with matching field-grey trousers. Similarly, the tropical issue uniform was an army issue, which was occasionally adopted by U-boat crews. The tunic was cut from tan or brown denim into a single-breasted jacket, secured with five buttons. Shoulder straps taken from the reefer uniform were worn by officers and warrant officers to indicate rank.

Tropical shirts were also worn by all ranks, and resembled the seaman's jersey, but were cut with additional breast pockets. Long trousers and shorts were issued in the same denim material as other tropical issue uniforms, and these were frequently worn with other uniform items. An even more popular form of deck wear was the leather jacket, worn as a three-quarter-length double-breasted coat, secured by four buttons. These came in black, mid-grey or light grey leather, and a shorter waist-length variant was worn by engine room personnel. All jackets could be worn with shoulder boards to signify rank, and were lined with a grey blanket-type material.

By far the most popular form of clothing on board a U-boat was the U-boat 'battledress' blouse. This was a short, waist-length garment cut from a grey-green denim-type cloth. It was single breasted, with breast pockets and an adjustable waistband. Buttons varied, but most seem to have been plastic or gilt. Shoulder straps were worn by non-commissioned officers, along

PETIT-BEURRE
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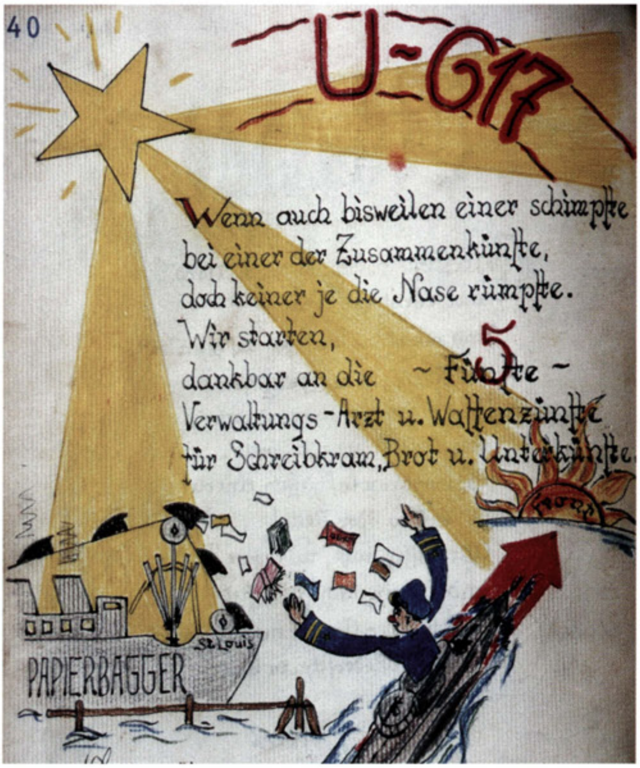

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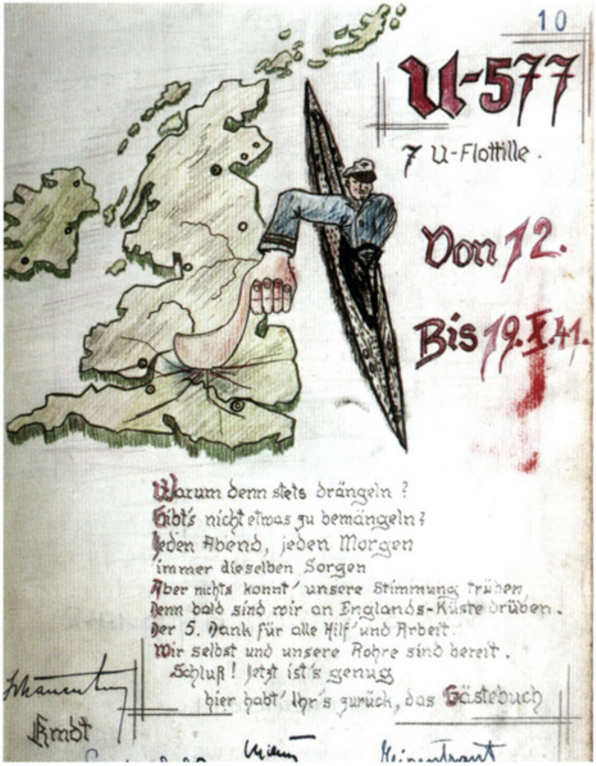
U-617

Wenn auch bisweilen einer schimpfte
bei einer der Zusammenkünfte,
doch keiner je die Nase rümpfte.
Wir starten,
dankbar an die ~ Fünfte ~
Verwaltungs-Arzt u. Waffenzünfte
für Schreibkram, Brot u. Unterkünfte.

5
PAPIERBAGGER
St. Louis



10

U-577

7 U-Flottille.

Von 12.
Bis 19.X.41.

Warum denn stets drängeln?
Gibt's nicht etwas zu bemängeln?
Jeden Abend, jeden Morgen
immer dieselben Sorgen
Aber nichts konnt' unsere Stimmung trüben,
denn bald sind wir an Englands-Küste drüben.
Der 5. Dank für alle Hilf' und Arbeit.
Wir selbst und unsere Rohre sind bereit.
Schluß! Jetzt ist's genug
hier habt ihr's zurück, das Gästebuch

Schauenburg
Kmdt

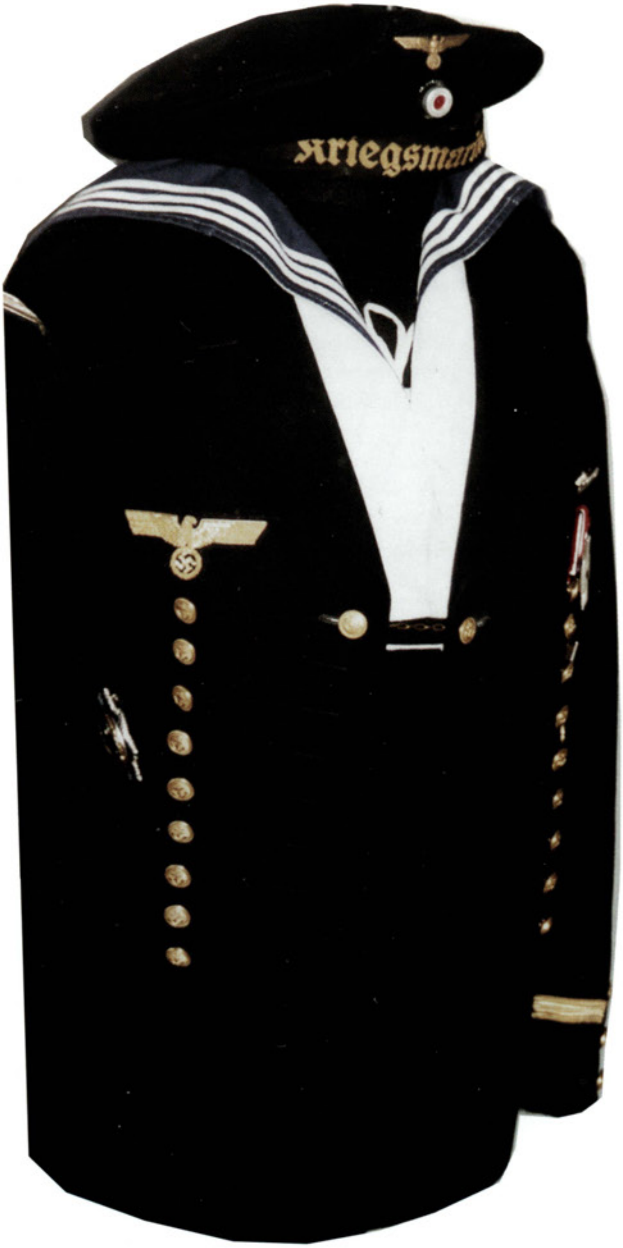
Left and Far left: Two pages from the 5th U-Flotilla's guest book with entries from 7th U-Flotilla boats. The 5th Flotilla was founded after the beginning of the war to specialise in kitting out U-boats going on their first war cruise, and so many boats going to the 7th Flotilla passed through it.

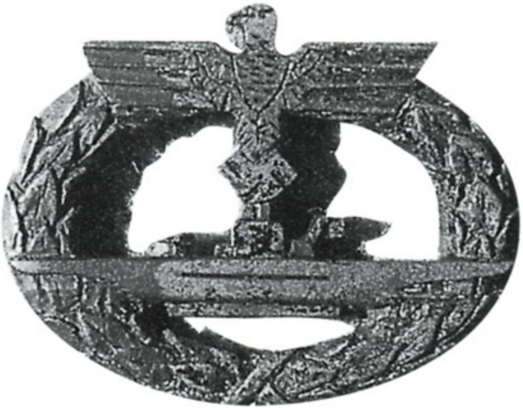
Below left: Type VII at sea with (inset) the snorting bull emblem of the 7th U-Flotilla.

Right: A sailor's monkey, or walking out, jacket. These were commonly worn before the war, but were somewhat impractical in U-boats and tended to be seen less frequently later on. Note the Kriegsmarine hatband.

Below right: A U-boat badge made aboard a U-boat and now on display at the U-Boot-Archiv. It survived the great fire of Dresden, which was hot enough to turn the brass black and melt the solder holding the pin at the back.

Below: Robert Gysae, the colourful epitome of a U-boat commander, served with the 7th U-Flotilla while commanding *U-98*.





Right: On watch in new U-boat leathers.

Far right: Another watch officer wearing a *Schiffche* cap. Note the life jacket over the leathers.

Below right: U-boat crews usually kept their own guard in port and so were issued with weapons – as shown here. The man is wearing rather old overalls, fashioned on the British army battledress.

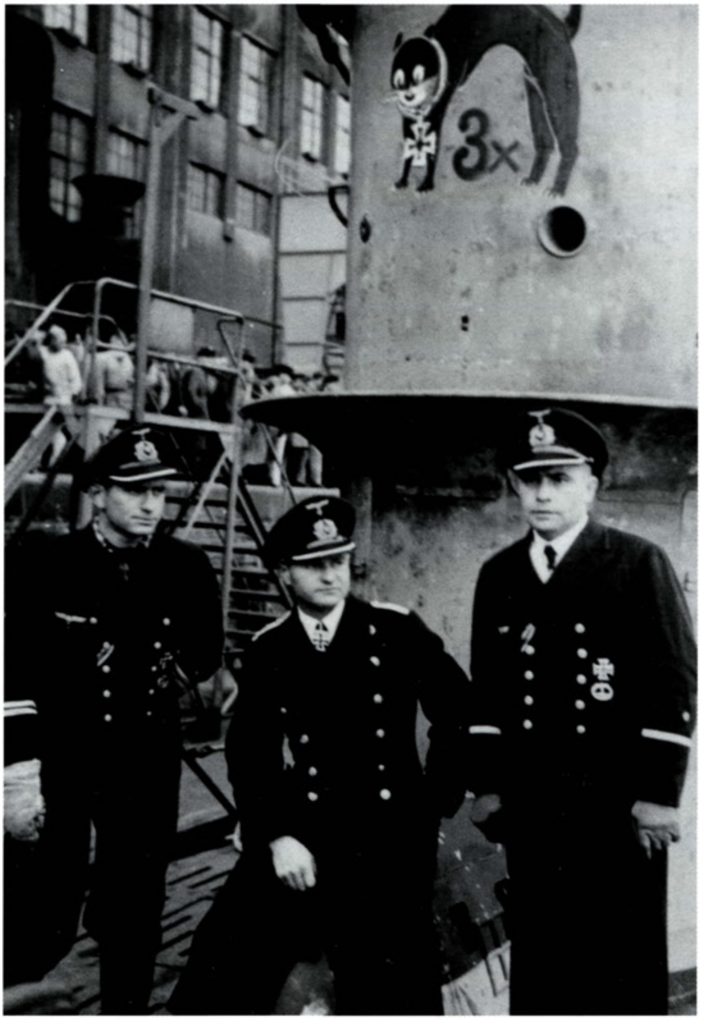
Bottom right: Nobody cared what you looked like in a U-boat and men wore whatever was comfortable. Note the torpedo aimer with its binoculars clipped in place.

Below: *U-48*, the most successful boat of the war, with three of her officers – 'Teddy' Suhren (left), who later commanded *U-564*, 'Ajax' Bleichrodt (commander, wearing a greatcoat) and engineer officer Erich Zürn on the right.

with small rank chevrons on the collar. Trousers were cut from the same cloth, and the leg was finished with an adjustable strap, so the trousers could be adjusted when worn over high boots. Strangely enough, captured British battledress blouses were also issued to U-boat crews, and adapted with the addition of German rank and trade insignia.

Foul weather clothing came in the form of long, loose-fitting rubberised jackets which came in a variety of colours, but were predominantly black. Wrists and neck-bands were elasticated, as were the bottoms and waists of foul weather trousers, made from the same material. In addition, a black 'balaclava' cape was worn over the head and shoulders, or else the ensemble was worn with a traditional black 'souwester' cap.

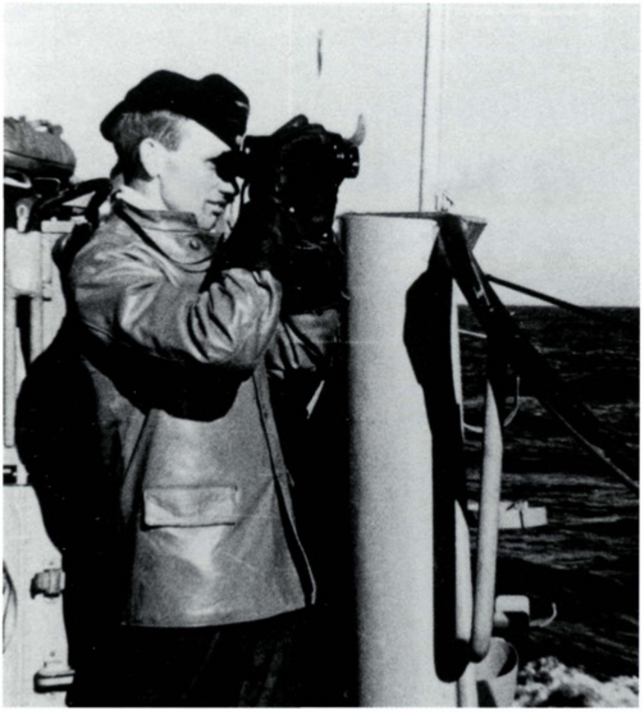
More conventional forms of headgear included the peaked cap (*Schirmmütze*) worn by officers and warrant officers. This was a dark blue wool cap with a black mohair hatband, a black leather peak and the appropriate insignia. For officers this included a gilt wreath surrounding a national cockade, and a gilt metal German eagle and swastika badge. On occasion, white cloth tops were worn instead of the dark blue woollen cover. Senior officers had the peaks of their caps embroidered with scalloping in the form of oak leaves. For ratings, the traditional German sailor's cap (*Matrosenmütze*) was worn. This was a fine dark blue cap with a stiffened blue band bearing the name of the boat in Gothic lettering. A small gilt eagle and swastika surmounted a metal cockade in the national colours of red, white and black. More commonly, sailors wore a fore-and-aft cap (known as the *Bordmütze*), which could be folded flat when not in use. Cut from dark-blue wool, it featured a yellow on dark blue cloth patch decorated with an eagle and swastika symbol, over a small cockade in the national colours. Officers' versions of the *Bordmütze* were embellished with metallic gold piping along the edges of the cap. In addition, tropical field caps were sometimes worn, modelled on the regular forms of cap, but cut from a tan or brown denim cloth. Other forms of headgear shown in photographs include blue woollen caps (*Pudelmütze*), tropical sun helmets, or civilian headgear. Deck crews were issued with steel helmets of the 1935 or 1940 patterns, painted mid-grey, and decorated with a gilt eagle and swastika symbol.

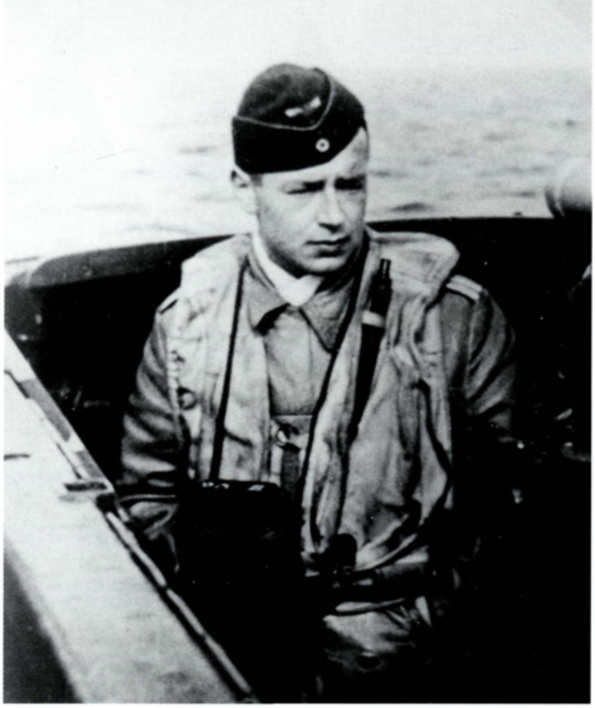


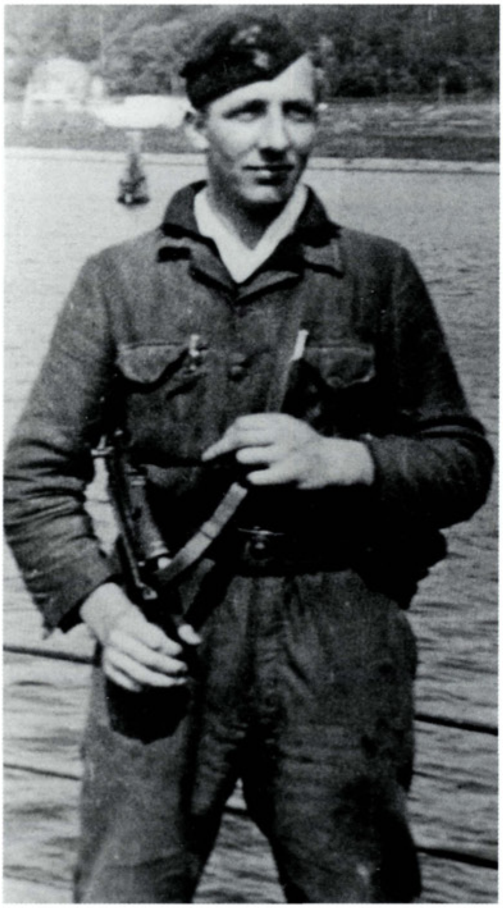
This catalogue of issue clothing does little to convey the way in which U-boat crews of all ranks were willing to mix and match clothing, or replace standard items with civilian wear. Dress regulations were extremely relaxed, and many photographs show crews wearing an incredible range of clothing, from mixtures of various types of standard uniform clothing to just swimming trunks and sunglasses! While the use of safety items such as helmets and lifejackets was enforced for deck parties, inside the boat it appears that the crews wore whatever they felt comfortable in.

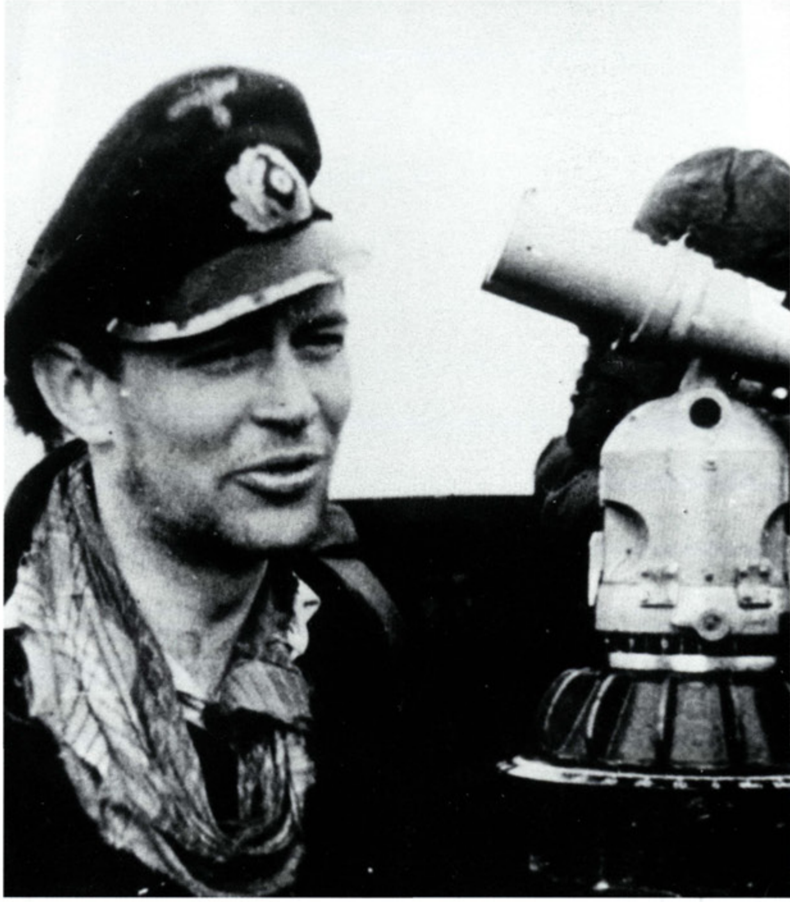
U-BOAT MARKINGS

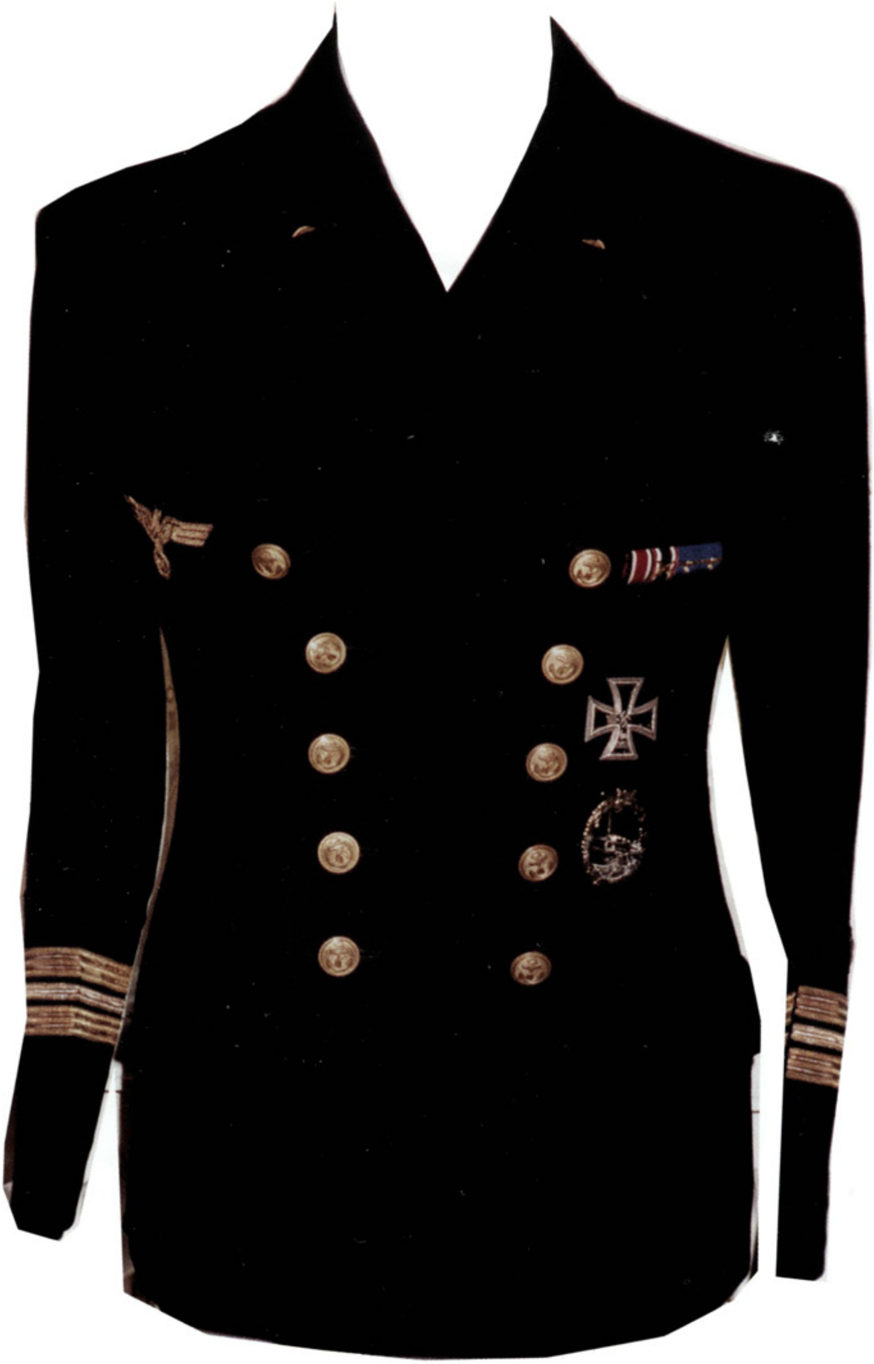
Like the combat aircraft of World War II, U-boats were often decorated with unofficial emblems, painted onto the sides or front of their conning towers. While it is difficult to







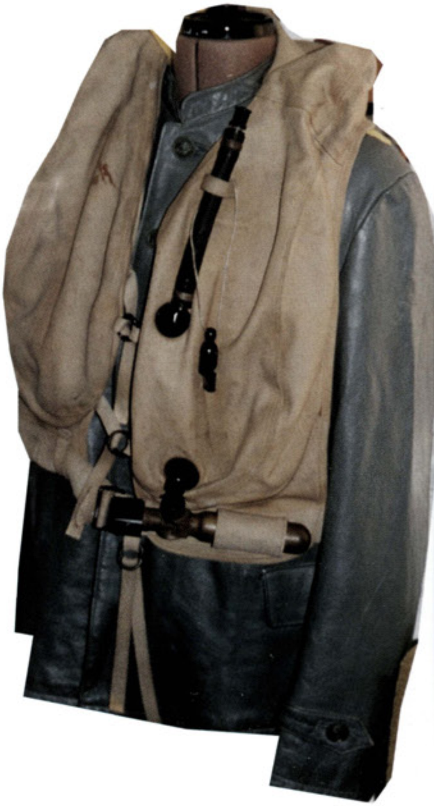




Left: A good quality *Kapitänleutnant*'s walking out jacket on display at the U-Boot-Archiv. The Iron Cross is an expensive silver version. Below it is a rare type of E-boat badge.

Right: Although unnecessary, the majority of U-boats hoisted a flag. This shows one of the early Type VIIA boats – note the torpedo tube at the stern, one of the above-water versions.

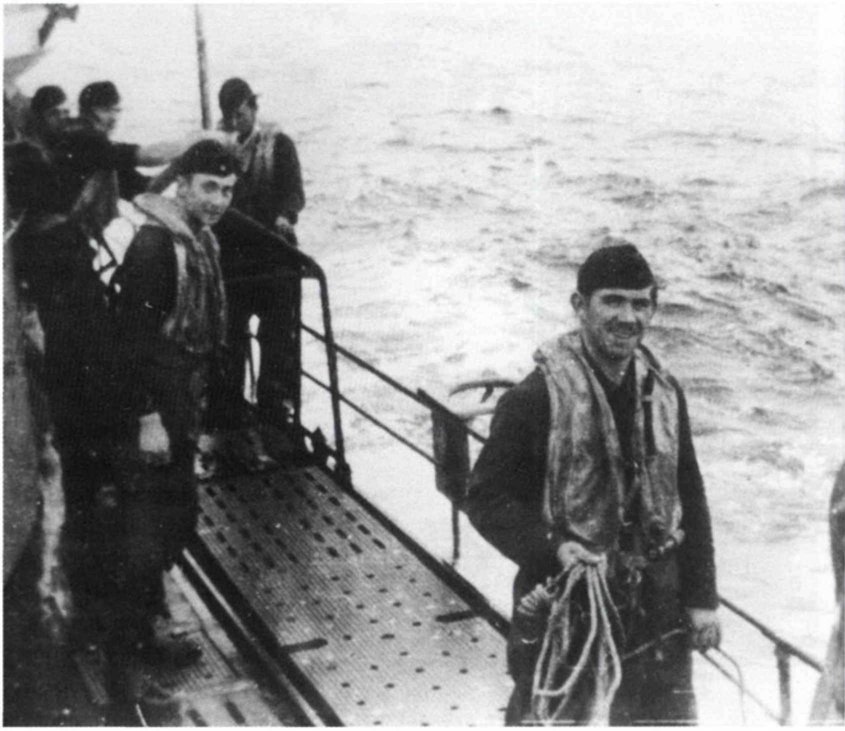
Below: A variety of different life jackets were issued for use by submariners – this type was also used by the Luftwaffe. On this dummy it is worn over a short U-boat jacket without lapels – as worn by engineers.



Right: Deck activity aboard a supply boat. Note the upper deck head, or latrine, screwed in place on the railings just to the left of the man holding the rope. It required skill and stamina to use the latrine even in good conditions.

Below: A strange photograph that is extremely difficult to caption! It is difficult to explain this peculiar combination of clothing without knowing the exact circumstances. The man sitting on the deck is wearing a sports vest under the towel or blanket.

Below right: Men relaxing on deck with the 88mm quick-firing gun on the right.



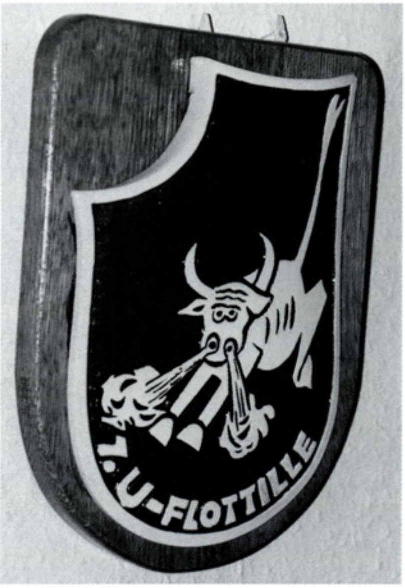
trace the origins of this tendency, a number of photographs of early-war U-boats show these images already in place – for example, a well-known photograph of *U-48* (Kptlt Herbert Schultze) returning from an early patrol, probably its first operational sortie in September 1939. During that patrol Schultze sank three ships, with a combined tonnage of 14,700 tons. In the photo the side of *U-48*'s conning tower bears a symbolic representation of the tonnage sunk by the U-boat, and the number of ships she sent to the bottom. It also carries the image of a large black cat. We know that, by October 1939 at the latest, the notorious Fritz-Julius Lemp of *U-30* permitted a seaman – Georg Högel – to paint a dog on the side of his boat's conning tower. Despite orders from the BdU that identification marks be painted out from the sides of U-boat conning towers, there seems to have been no real effort to end this practice. It is likely that Dönitz recognised that the unofficial addition of emblems would help crews identify with their boats, and would boost morale. This crew identification was carried forward into uniforms, where unofficial badges were produced, carrying the same image. These were sometimes worn by crewmen in their caps or uniform jackets. Artists amongst the crews were pressed into service to devise images, and to paint them onto their boats.

Many of these markings were inspired by events which took place during the boat's career. When *U-64* was sunk off Narvik in Norway, most of the boat's 38 survivors were rescued by German Alpine troops. When the crew were appointed to a new U-boat (*U-124*, commissioned in Wilhelmshaven in June 1940), the crew invited some of the Alpine soldiers to the ceremony, and painted the Alpine unit's Edelweiss badge on the conning tower of their new boat. Under Kptlt Georg-Wilhelm Schulz, *U-124* went on to sink 48 Allied ships before she was sunk off Portugal in 1943. Similarly, Kptlt Otto Kretschmer, the 7th Flotilla ace of *U-99*, ordered that two 'lucky' horseshoes be fixed on the sides of his boat, after fishing them out of the silt of Kiel harbour when they were caught in his boat's anchor cable.

Perhaps the most famous U-boat emblem of them all was the 'Snorting Bull' which Kptlt Günther Prien had painted on the sides of *U-47* after sinking HMS *Royal Oak* in Scapa Flow on 14 October 1939. Soon afterwards, the emblem became the unofficial badge of the 7th Flotilla, and after Prien's death in early March 1941, the flotilla identification symbol received an official sanction. From April 1941 onwards, all U-boats attached to the 7th U-boat Flotilla were requested to paint the 'Snorting Bull of Scapa Flow' onto the sides of their conning towers. Kptlt Jost Metzler of *U-69* recalled how he was requested to paint the emblem onto his boat on his arrival in St Nazaire in February 1941. His crewmen used the image of the 'Laughing Cow' from a popular French brand of cheese as a guide. Unfortunately it didn't look like Prien's symbol, and ever after *U-69* was known as the 'Laughing Cow' boat. This suggests that even within the 7th Flotilla, there was little attempt at standardisation. To make life easier, 7th Flotilla officials eventually produced a template, which was taped over the conning tower, and then sprayed or hand-painted. A rare photograph of the crew of *U-567* painting the 'Raging Bull of Scapa Flow' onto the side of their boat was taken when the U-boat joined the 7th Flotilla in November 1941. As the commander of *U-567* was Kptlt Engelbert Endrass, the former deputy of Günther Prien, the man who ensured Prien's orders were carried out when the original emblem was painted would have supervised the crew!

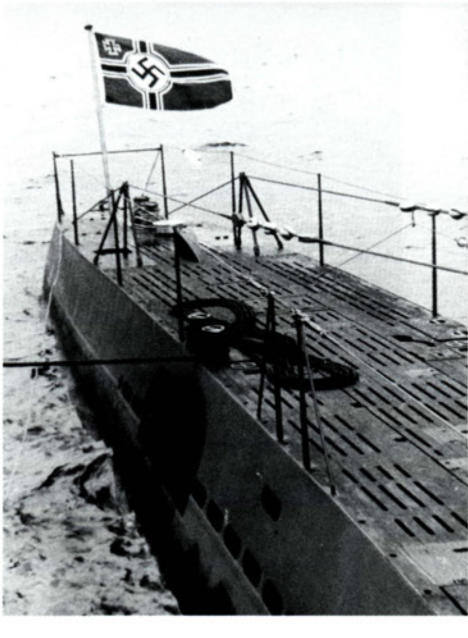
THE U-BOATS

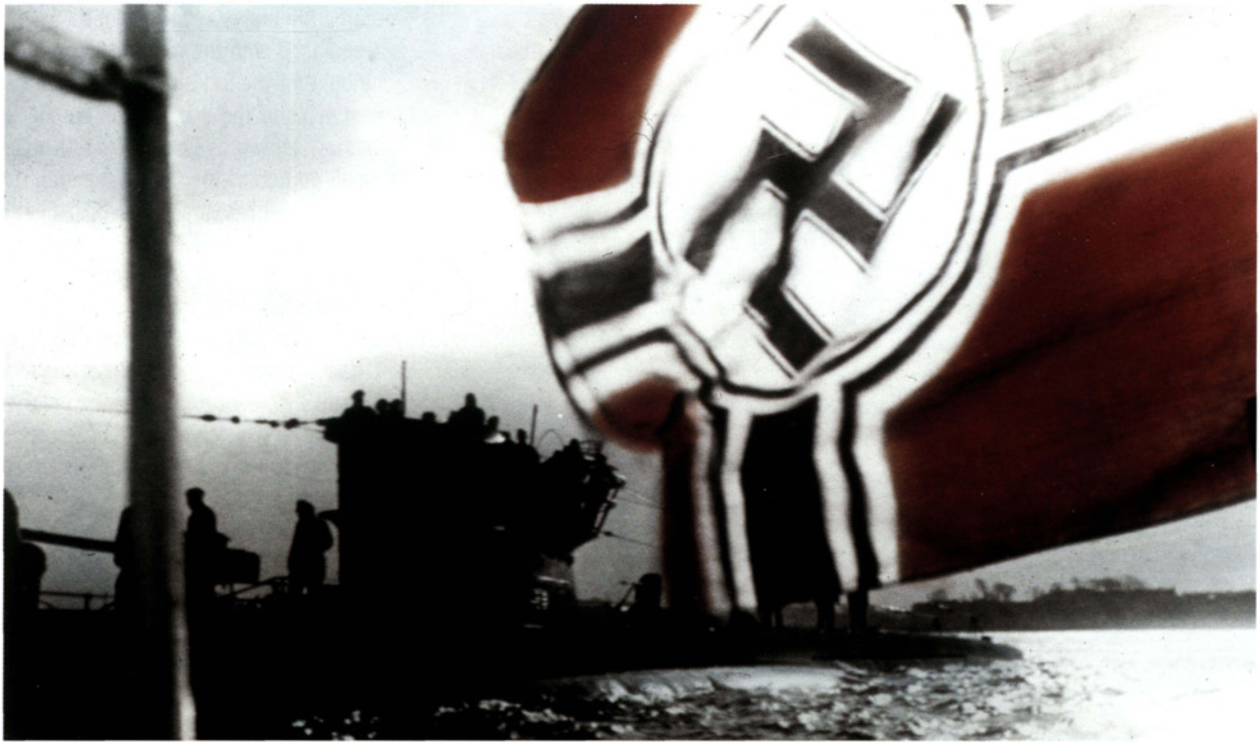
The 7th Unterseebootsflottille 'Wegener' was initially created as an administrative unit to support the operation of the latest Type VIIB U-boats which entered service shortly before the start of the war in September 1939. While this type of boat made up the bulk of the flotilla during the first year of the war, the slightly improved Type VIIC U-boats began to

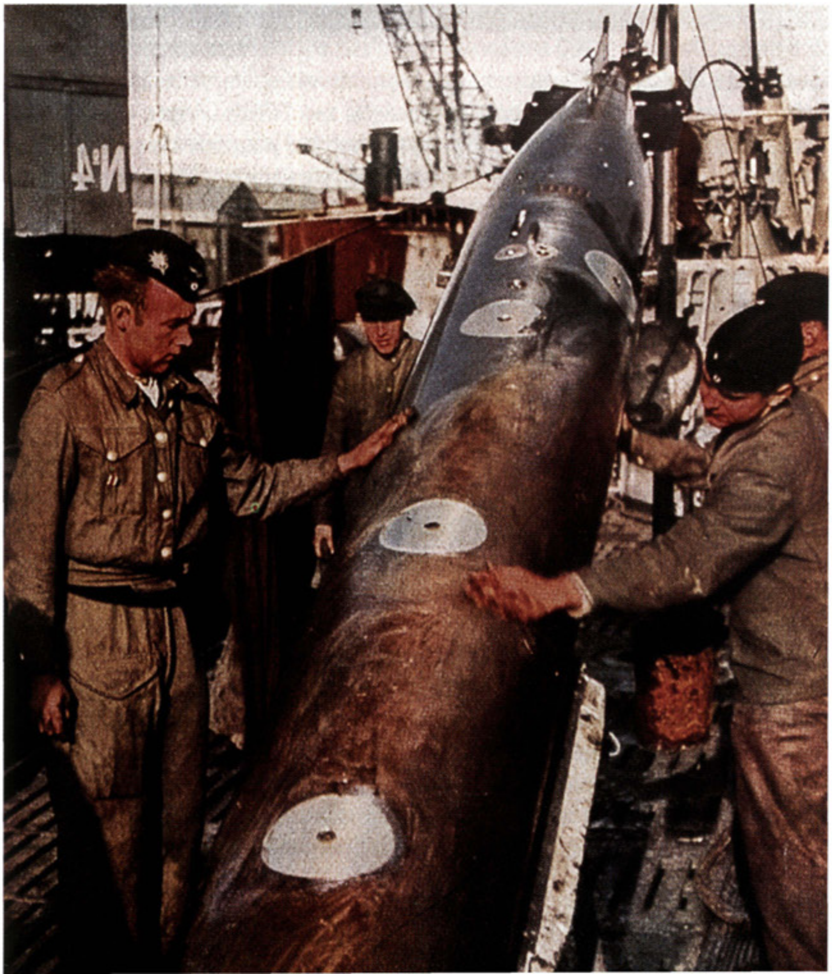


Above: The 7th U-Flotilla badge on display at the U-Boot-Archiv in Cuxhaven-Altenbruch.

Below: With her naval ensign fluttering in the breeze, the neat layout of the ropes on this vessel indicates this was no ordinary working day! The erection of railings suggests the photograph was taken during training or an official function.







Far left: A large ocean-going boat showing how fierce the wind could be even when the sea was relatively calm. Keeping a four-hour long lookout against such spray was painful, but necessary, and quality weatherproof clothing was essential.

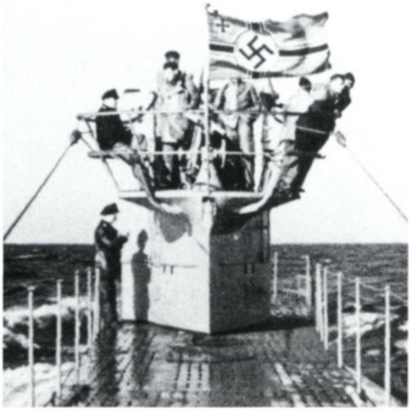
Above: Under the fluttering naval ensign this U-boat has the early type of conning tower configuration with a single 20mm anti-aircraft gun on the upper platform and an 88mm deck gun forward of the tower.

Left: Loading torpedoes was a time-consuming job involving a great deal of heavy work. The man with the Edelweiss badge is wearing overalls which were modelled on British army battledress. After the fall of France considerable quantities of clothing were left behind by the British Army and hardly any of it was damaged. U-boat men were the least likely to be accidentally mistaken as British and were therefore issued with this leftover foreign gear. The battledress was found to be so convenient that the naval clothing office was put under pressure to produce something similar for U-boat crews.

enter service by late 1940. This type quickly became the mainstay of the flotilla, and by the spring of 1942 the 7th U-boat Flotilla was equipped with the more modern boats. The one exception to this was *U-A*, a submarine built for the Turkish Navy, and pressed into service when the war began. During the last years of the war a small number of improved Type VIIC boats entered service. These were known as Type VIIC/41 U-boats, although their numbers only accounted for a small portion of the flotilla strength. This means that, unlike some other operational 'front line' flotillas, the 7th U-boat Flottila enjoyed a high level of standardisation amongst its operational boats.

All of the Type VII U-boat designs shared certain characteristics. They were all single-hulled boats, with a partial second hull formed by the outer pressure hull, which surrounded most of the boat's surface. The Type VII design was a great improvement on that of the earlier Type II coastal boat, as it had a greatly improved fuel capacity, armament and engine performance. Also, its fuel tanks were located inside the pressure hull, rather than in saddle tanks, as had been the case in earlier designs. A main central ballast tank, augmented by bow and stern tanks outside the pressure hull and saddle tanks to port and starboard provided buoyancy. A streamlined outer casing gave a sleek appearance to these craft. The space between this and the pressure hull below was used to house waterproof storage containers, the boat's dinghy, ammunition lockers for the deck gun and even spare equipment or torpedoes.

The first Type VII boats were designed in 1933, and later variants appeared throughout the war, making them the true workhorses of the U-boat fleet.



Above: An early conning tower design and hand rails still in place suggests this picture was taken during training in the early war years.

Type VIIA

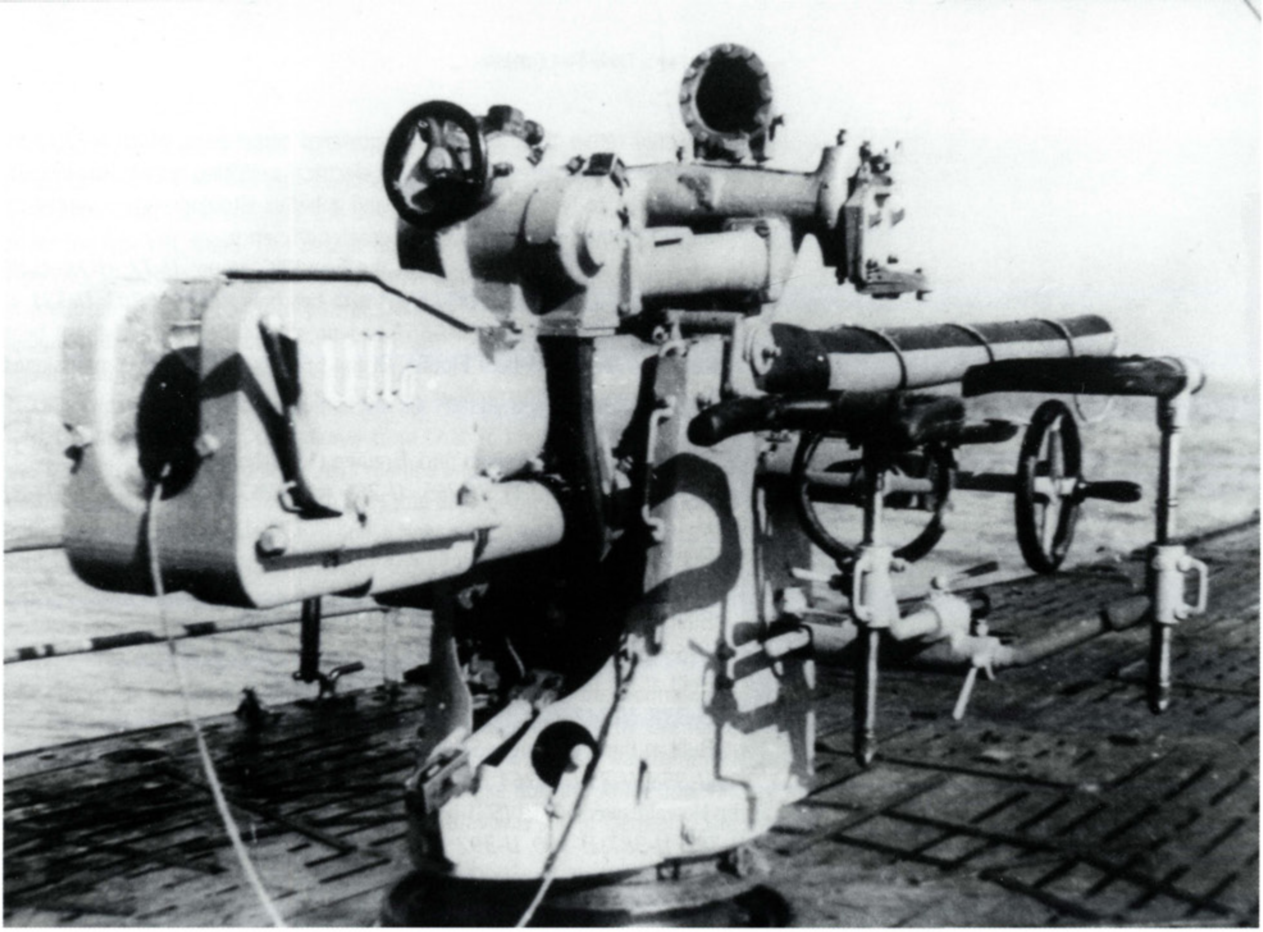
The initial group of ten Type VII boats (later re-designated as Type VIIA) displaced 626 tons (745 tons when submerged), and measured 64.5 metres in length, with a beam of 5.8 metres. Their two 1,160 horsepower (hp) diesel engines were capable of driving the boats at 16 knots on the surface, making them fast enough to overhaul most merchant ships. Underwater propulsion was provided by two 375hp electric motors, which produced a top submerged speed of 8 knots. Enough fuel was carried to give these boats a range of 4,300 nautical miles on the surface, or 90 nautical miles when submerged. They were armed with 11 torpedoes, and these were fired from four bow tubes and one stern tube. The gun armament consisted of a 88mm deck gun (with 160 rounds of ammunition), and sometimes an additional single 20mm was mounted abaft the conning tower. Instead of torpedoes, these boats could also carry up to 33 TMB mines (or 22 of the larger TMA variety). The early Type VII boats were crewed by 44 men.

Type VIIB

The Type VIIB variant of the basic Type VII design entered service in 1937, and some of the first boats of this type formed the basis of Unterseebootsflottille 'Wegener'. After the first Type VII boats entered service, it was discovered that the main drawback of the early design was the limited fuel capacity. The designers set about rectifying the problem by 'stretching' the U-boat hull, and the result was the Type VIIB. Compared to the earlier boats, these craft carried an additional 33 tons of fuel in external saddle tanks, which extended their operational range by 2,500 nautical miles, given a cruising surface speed of 10 knots. The tanks were also self compensating; as fuel was used up, sea water entered the tanks, therefore avoiding the creation of large buoyant spaces. The engines were also more powerful than the earlier versions as they were now fitted with turbochargers, which gave these craft a slight edge in speed. They boats were also more agile, as they were fitted with two rudders (as opposed to one in the Type VIIA boats), and this dual-rudder system was also fitted in all later Type VII variants. In theory, the armament was the same as the VIIA, with four bow torpedo tubes and one stern tube.

Specifications of the Type VIIB

Displacement: 753 tons surfaced; 857 tons submerged
Length (overall): 66.5 metres
Length (pressure hull): 48.8 metres
Beam: 6.2 metres
Beam (pressure hull): 4.7 metres
Draft: 4.74 metres
Height (overall): 9.5 metres
Engines: 2 x 1,400hp diesels; 2 x 375hp electric motors
Power: 3,200hp surfaced; 750hp submerged
Maximum speed: 17.9 knots surfaced; 8 knots submerged
Surface range: 8,700 nautical miles at 10 knots
Submerged range: 90 nautical miles at 4 knots
Torpedo armament: 4 bow tubes, 1 stern tube, 14 torpedoes (alternatively 26 TMA mines could be carried)
Gun armament: 1 x 88mm L45 deck gun with 220 rounds (occasionally a single 20mm flak gun was also carried)
Maximum diving depth: 220 metres
Crew: 44 (sometimes up to 48 were carried)



Above: The 88mm quick firing deck gun had watertight plugs at both ends of the barrel and about 80 greasing points. Maintenance was quite a headache, especially when enemy aircraft interrupted such vital work.

However, the stern tube was brought inside the pressure hull (though for some reason *U-83* was built with no stern tube). However, space was created for the storage of three extra torpedoes, bringing the total number carried while on patrol to 14.

A total of 24 Type VIIB U-boats were built. Of these, 19 served in the 7th U-boat Flotilla; *U-45* to *U-55* and *U-99* to *U-102* (built at the Germaniawerft Yard in Kiel), *U-73* to *U-76* (built in the Bremer Vulkan Yard in Bremen). The remaining five boats (*U-83* to *U-87*) joined the 1st and 5th Flotillas. The 7th Flotilla boats included those commanded by some of the most famous U-boat aces of the war: Hans-Rudolf Rösing (*U-48*), Günther Prien (*U-47*), Otto Kretschmer (*U-99*) and Joachim Schepke (*U-100*).

Type VIIC

This third and most numerous variant of the basic Type VII design was a slightly improved version of the successful Type VIIB U-boat. These later boats had the same basic engine configuration and power output, but their greater displacement and longer hull meant that they were slightly slower than the earlier boats. The slightly longer hull improved their performance through the water, making them marginally better 'seaboats' than their predecessors. It had originally been intended to 'stretch' these boats in order to fit a newly-introduced piece of sonar search equipment, known as the Such-Gerät (S-Gerät), but the additional length also created a slightly more spacious conning tower and control room.

The armament remained the same: four bow tubes and a single stern tube, with a supply of 14 torpedoes per boat. The deck armament also remained the same. Changes were incorporated into the ballast tank system after experience of the first Type VII designs. The fitting of a small buoyancy tank within each of the saddle tanks improved the speed with which the boat could dive. The tanks were also fitted with a diesel-

Specifications of the Type VIIC

Displacement: 769 tons surfaced; 871 tons submerged
Length (overall): 67.1 metres
Length (pressure hull): 50.5 metres
Beam: 6.2 metres
Beam (pressure hull): 4.7 metres
Draft: 4.74 metres
Height (overall): 9.6 metres
Engines: 2 x 1,400hp diesels; 2 x 375hp electric motors
Power: 3,200hp on surface, 750hp submerged
Maximum speed: 17.5 knots surfaced; 7.5 knots submerged
Surface range: 8,500 nautical miles at 10 knots
Submerged range: 80 nautical miles at 4 knots
Torpedo armament: 4 bow tubes, 1 stern tube, 14 torpedoes (alternatively, 26 TMA mines could be carried)
Gun armament: 1 x 88mm L45 deck gun with 220 rounds (occasionally a single 20mm flak gun was also carried)
Maximum diving depth: 220 metres
Crew: 44 men (sometimes up to 52 were carried)

Above: Although the vents on the side of a Type VII looked fairly similar, there were enough slight variations in the pattern to make this a useful identification feature.

powered rather than an electrical-powered compressor, which reduced the drain on the batteries. An improved electrical switching system was installed (compared to Type VIIB U-boats), and a better filtration system vented the engine room of diesel fumes with greater efficiency.

There were a few variants in the Type VIIC group: *U-72, U-78, U-80, U-554* and *U-555* were only fitted with two bow tubes; *U-203, U-331, U-351, U-401, U-431,* and *U-651* had no stern tube. None of these boats served in the 7th U-boat Flotilla. Of the 568 Type VIIC boats commissioned, 88 saw service in the flotilla:

Built at the Bremer Vulkan Yard, Bremen (11 U-boats)
U-77, U-133, U-135, U-255, U-265 to *U-267, U-274, U-278, U-281, U-285*
Built at the Flender-Werke, Lübeck (3 U-boats)
U-88, U-303, U-310
Built at the Germaniawerft Yard, Kiel (13 U-boats)
U-69 to *U-71, U-93* to *U-98, U-207, U-221, U-224, U-227*
Built at the Nordseewerke, Emden (2 U-boats)
U-338, U-342
Built at the Flensburger Schiffsbau, Flensburg (3 U-boats)
U-358, U-359, U-364
Built at the Howaldtswerke, Kiel (5 U-boats)
U-381, U-382, U-387, U-390, U-397
Built at the Danziger Werft, Danzig (4 U-boats)
U-403, U-406, U-410, U-427
Built at the F. Schichau Yard, Danzig (7 U-boats)
U-434, U-436, U-442, U-448, U-449, U-1191, U-1192
Built at the Deutsche Werke, Kiel (3 U-boats)
U-453 to *U-455*
Built at the Blohm & Voss Yard, Hamburg (27 U-boats)
U-551 to *U-553, U-567, U-575* to *U-578, U-581, U-593, U-594, U-602, U-607, U-617, U-618, U-624, U-641, U-647, U-650, U-962, U-969, U-974, U-976, U- 980, U-985, U-988, U-994*
Built at the Howaldtswerke, Hamburg (3 U-boats)
U-662, U-667, U-678
Built at the H. C. Stülcken Yard, Hamburg (5 U-boats)
U-702, U-704, U-707, U-710, U-714
Built at the Kriegsmarinewerft, Wilhelmshaven (2 U-boats)
U-751, U-765

Not only was the Type VIIC U-boat the workhorse of the German U-boat fleet, from 1941 on, it was the mainstay of the 7th U-boat Flotilla. It is therefore appropriate that the first Type VIIC boat to be commissioned would join the flotilla. Of these boats, *U-96* is probably the most famous, through its portrayal in the film *Das Boot* (1997), based on the novel of the same name by Lothar-Günther Buchheim.

Type VIIC/41

This minor variant of the Type VIIC design came about as a result of improvements in German shipbuilding technology. The electrical equipment fitted in these boats was a significant improvement on earlier designs, and the more compact units created a weight saving of 11 tons. This weight gain was used to improve the pressure hull, increasing its

Specifications of the Type VIIC/41
Displacement: 769 tons surfaced; 871 tons submerged
Length (overall): 67.1 metres
Length (pressure hull): 50.5 metres
Beam (overall): 6.2 metres
Beam (pressure hull): 4.7 metres
Draft: 4.74 metres
Height (overall): 9.6 metres
Engines: 2 x 1,400hp diesels; 2 x 375hp electric motors
Power: 3,200hp surfaced; 750hp submerged
Maximum speed: 17.7 knots surfaced; 7.6 knots submerged
Surface range: 8,500 nautical miles at 10 knots
Submerged range: 80 nautical miles at 4 knots
Torpedo armament: 4 bow tubes, 1 stern tube, 14 torpedoes
Note: mine fittings were not installed in either *U-300* or *U-1004*
Gun armament: 1 x 88mm L45 deck gun with 220 rounds (occasionally a single 20mm flak gun was also carried)
Maximum diving depth: 250 metres
Crew: 44 men (sometimes up to 52 were carried)

thickness by an extra 2.5mm, which resulted in an increase in the boats' maximum diving depth. The bow was also lengthened to improve the seakeeping qualities of the boat. Apart from these changes, the basic layout and design of the craft was the same as for the Type VIIC boats. This design saw one further variant in the greatly improved Type VIIC/42 design, but none of these boats were completed, as they were phased out of production in late 1943, to permit work on the more advanced Type XXI 'electro' U-boat. The Type VIIC/41 boat *U-995* survived the war, and now forms the centrepiece of a museum display at Laboe, north of Kiel.

Only two Type VIIC/41 boats joined the 7th Flotilla. *U-300* (built at the Bremer Vulkan Yard, Bremen) became an operational 'front boat' in the flotilla on 1 August 1944, but was transferred from the unit just two months later. *U-1004* (built at the Blohm & Voss Yard, Hamburg) joined the flotilla on the same day (1 August 1944), and was transferred to the 11th Flotilla based in Norway on 1 November 1944. In effect, both boats left the flotilla organisation at St Nazaire in late August, when they set out on combat patrols in British coastal waters, and returned to Bergen after their patrols.

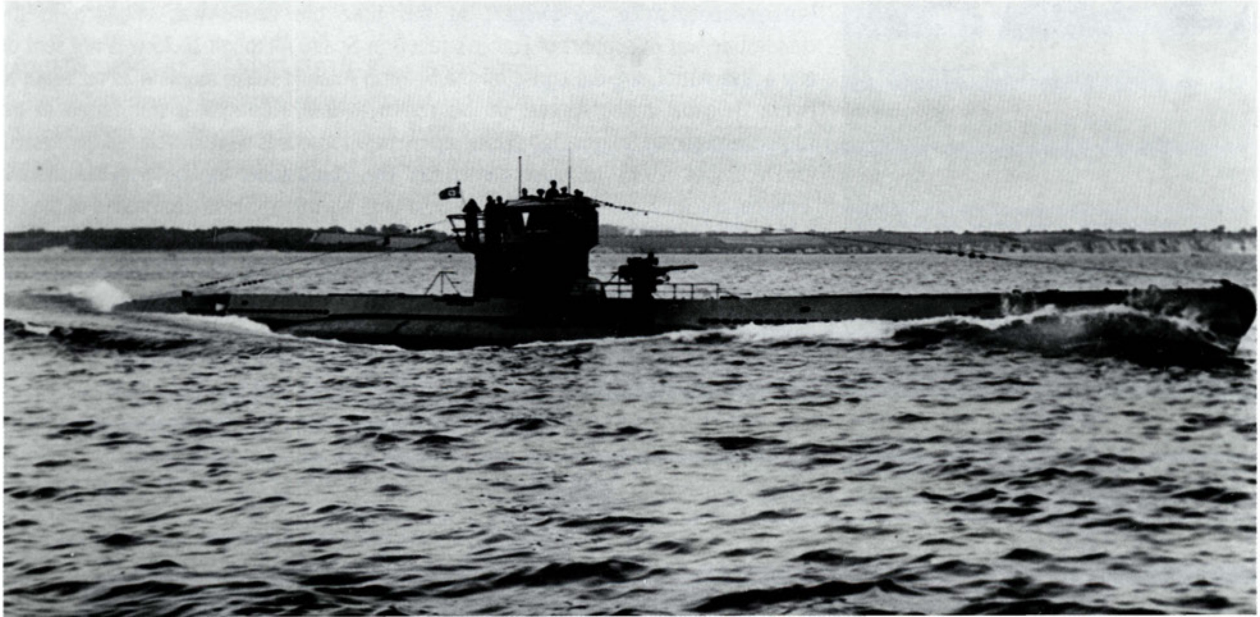
U-A

One other U-boat served in 7. Unterseebootsflottille. Built in the Germaniawerft Yard in Kiel for the Turkish Navy, she was one of four boats ordered by the Turkish foreign minister, of which one had already been delivered (the *Saldiray* was commissioned into the Turkish Navy in June 1939). When the war broke out, the *Atilay* and *Yildiray* were being built under contract in Turkey, but the *Batiray* was still in Germany. She was duly seized by the German authorities.

The *Batiray* was built along the lines of a Type VIIA U-boat, but had her deck gun mounted on a platform which extended forward of her conning tower. Re-named *Optimist* when she was first commissioned on 20 September 1939, she was re-designated *U-A* the following day, as Dönitz disapproved of a name rather than a numerical designation for the boat. She served in the 7th Flotilla until March 1941, when she was temporarily transferred to the 2nd Flotilla based in Lorient. She rejoined the flotilla in December 1941, and remained as a flotilla 'front boat' until her transfer to a training flotilla in August 1942. The most successful of all the 'foreign-built' submarines in the Kriegsmarine, the *U-A* completed nine operational patrols, and sank seven ships, with a total displacement of 40,700 tons. This tally included the British armed merchant cruiser HMS *Andania* (14,000 tons), which *U-A* sank off Iceland on 16 June 1940.

Specifications of U-A (Turkish 'Ay' Class)
Displacement: 934 tons surfaced; 1,210 tons submerged
Length (overall): 80 metres
Length (pressure hull): 68.4 metres
Beam (overall): 6.4 metres
Beam (pressure hull): 4.8 metres
Draft: 4.11 metres
Height (overall): 9.3 metres
Engines: 2 x 1,400hp diesels; 2 x 525hp electric motors
Power: 3,500hp surfaced, 1,000hp submerged
Maximum speed: 20 knots surfaced; 9 knots submerged
Surface range: 6,400 nautical miles at 9 knots
Submerged range: 101 nautical miles at 4 knots
Torpedo armament: 4 bow tubes, 2 stern tubes, 14 torpedoes
(alternatively, 26 TMA mines could be carried)
Gun armament: 1 x 100mm deck gun (with 116 rounds) + single 20mm flak gun
Maximum diving depth: 100 metres
Crew: 44 men (sometimes up to 48 were carried)

Below: This Type VII has the early type of conning tower configuration and is photographed while at speed.



PEOPLE

For most of its existence, the 7th U-boat Flotilla was administered by the Befehlshaber der Unterseeboote (BdU), Admiral Karl Dönitz (1891–1980). The BdU was divided into an operational department (BdU – Operationsabteilung), and an administration department (BdU – Organisationsabteilung), which was responsible for personnel and training. By October 1940 the BdU had moved to Kernével near Lorient, although it returned to Germany in March 1943, after spending a year when based in Paris. Dönitz grouped his U-boat flotillas by geographical area, and each of these regions was commanded by a Führer der Unterseeboote (FdU), supported by a small staff. 7th Flotilla came under the control of FdU West, who for most of the war was based near Lorient at Angers.

HANS RUDOLF RÖSING (1905–)

The first commander of the Unterseebootsflottille 'Wegener' – Hans-Ernst Sobe (1904–42) – gave up his command on 31 December 1939 when he moved to a staff position at the (BdU) headquarters in Kiel. His place was taken by Korvettenkapitän Hans Rösing, an experienced U-boat commander, and a popular officer. Rösing joined the Navy in 1924, and after serving on the light cruisers *Nymphe* and *Königsberg*, he was selected for U-boat training. During the early 1930s he was sent on a secret attachment to Finland, where he gained operational experience in Finnish submarines (he commanded *S-3* and *S-15* during this two-year secondment). After two years at the U-Boot-Abwehr-Schule, he was given command of *U-11*, one of the Type IIB U-boats which formed part of the Bootschulflottille (Training Flotilla), based in Kiel. In early 1937 he was given command of the operational Type VIIA U-boat *U-35*, which was part of Unterseebootsflottille 'Saltzwedel'. At this time the flotilla was engaged in the clandestine war in support of Franco's rebels in Spain. Although *U-35* was not sent on any active patrol, she did cruise off the Spanish Atlantic coast, roaming as far south as Punta Delgada in the Azores. On his return to Kiel, Rösing was transferred to the Torpedoerprobungskommando (TEK), where new torpedoes were developed and tested. In December 1938 he was named as the commander of Unterseebootsflottille 'Emsmann' (5th Flotilla), a position he held until his transfer to the command of the 7th Unterseebootsflottille ('Wegener') just over a year later.

This was a difficult time for the flotilla, as it was beginning to suffer casualties. Kptlt Werner Heidel (*U-55*) was captured on his first operational patrol after his boat was depth-charged off the Scilly Isles in late January 1940. Next came Kptlt Günther Kutschmann (*U-54*) and Kvkpt Harald Grosse (*U-53*), who went down with their whole crews in the North Sea within days of each other. Another double loss came two months later, when Kptlt Max-Hermann Bauer (*U-50*) and Kptlt Kurt von Gossler (*U-49*) were lost during the Norwegian campaign. At least Rösing had the consolation that von Gossler and most of his crew survived, and were taken prisoner by the British off Narvik.

This meant that, of the 12 operational U-boats in the flotilla during Rösing's period as flotilla commander, five were lost.

Even worse, this phase of losses came at a time when the morale of the U-boat crews was hit hard by the faults inherent in the torpedoes they were given. Rösing's experience with the Torpedoerprobungskommando gave him a detailed understanding of the torpedoes his crews were issued with, and he personally supervised the drive to improve the torpedo mechanisms. But this was not how Rösing wanted to spend the war. He had requested a return to operational duties since his appointment as 7th Flotilla commander in January 1940. His wish was finally granted, and on 21 May he took command of *U-48*. He replaced the highly successful Kptlt Herbert Schultze who was sent to the Naval Hospital in Kiel for the summer, to recover from a liver and kidney disorder.

HERBERT SOHLER (1908–91)

Rösing was due to return to his post as flotilla commander on Schultze's return from hospital, so when Kptlt Herbert Sohler was appointed as the new flotilla commander, his assignment was meant to be a temporary one. Instead, Schultze remained in hospital until December 1940, when he resumed command of *U-48*. In the meantime, Rösing had moved on to greater things. In September 1940 he was appointed as U-boat liaison officer to the Italian submarine flotilla based at the Betasom base in Bordeaux. Kptlt Heinrich Bleichrodt took over command of *U-48*, a position he held until Schultze's return in December. He was then assigned to the newly-built Type IXC boat, *U-67*. Then, in March 1941, Rösing was appointed to command the 3rd U-boat Flotilla, based in Kiel (it relocated to La Pallice/La Rochelle in September 1941). In August 1941 Rösing was drafted to Dönitz's staff (BdU). Almost a year later, he became Führer der Unterseeboote (FdU) West, responsible for all U-boats and flotillas stationed on the Atlantic coast of France.

This all meant that Herbert Sohler remained in command of the 7th U-boat Flotilla. It was therefore under his tenure that the flotilla moved from its base in Kiel to its new home at St Nazaire. In August 1941 Sohler was promoted to Korvettenkapitän, and the following month, after Rösing's transfer to BdU, his position was changed from a temporary assignment to a full-time posting. He remained in command of the flotilla until February 1944, when Kvkpt Adolf Piening was appointed as his replacement. Sohler was therefore the commander who had to help the flotilla recover from the traumatic losses it incurred in the spring of 1941, and who commanded the unit during the climactic phase of the Battle of the Atlantic. He was also the man who had to write hundreds of letters of consolation to grieving relatives of his U-boat officers.

ADOLF CORNELIUS PIENING (1910–84)

When Adolf Piening was appointed to command the 7th U-boat Flotilla in March 1944, his command was already fading away. In early April 1943 the flotilla had contained 29 boats; a year later losses had reduced this total to just 16 boats. This dropped to 13 boats in early July, when the prospects of an enemy breakout in Normandy first began to concern the staff of the BdU. By 1 September, the flotilla had shrunk to just ten U-boats. Its mission had also changed, from waging unrestricted war against Britain's supply lines to the secondary task of tying down as much of the enemy's naval strength and resources as possible. Piening inherited a flotilla which was a mere shadow of its former self, and was given orders which amounted to a concession of defeat by Dönitz.

This said, Piening was the ideal man for the task of supervising the break-up of the flotilla, and its escape from St Nazaire. He had begun his naval career as a cadet on the *Deutschland*, and served in smaller warships (torpedo boats and inshore minesweepers) until he transferred to the U-boat arm in October 1940. A late convert to U-boat warfare,

Top: Kvkpt Herbert Sohler commanded the flotilla for most of the war and supervised its relocation from Kiel to St Nazaire.

Above: Kvkpt Adolf Piening took over the flotilla during its final months in St Nazaire and supervised its dispersal.

Above left: Kptlt Hans-Ernst Sobe, the first commander of the 7th U-boat Flotilla.

Left: Sobe was succeeded by Kvkpt Hans Rösing, a competent and aggressive U-boat commander.

The Staff of the 7th U-boat Flotilla, Summer 1942

Flotilla Commander: Kvkpt Herbert Sohler
Flotilla Adjutant: ObltzS Ernst Krieg
(later replaced by LtzS Karl-Gabriel von Gudenus)
Flotilla Secretary: ObltzS Bachmeier
Kapitän with Staff: Kvkpt Freeden
Flotilla Administration Officer: Kptlt Rüting
2nd Administration Officer: ObltzS Christian Fuchs
3rd Administration Officer: ObltzS Kunzke
(later replaced by ObltzS Behnke)
Flotilla Engineering Officer: Kptlt Sattler
2nd Engineering Officer: ObltzS Röver
Transport Commander: ObltzS Botsch
Chief Medical Officer: Marineoberstabsarzt Rundte

Non-Commissioned Staff Members
Flotilla Navigator: Obersteurmann Werner Carlsen
Flotilla Radio Operator: Oberfunkmeister Erhard Konrad
Flotilla Torpedo Mechanic: Obermechaniker Eugen Spadinger
Flotilla Artificer: Oberfeuerwerker Karl Mandewirt
Flotilla Registrar: Oberschreibfeldwebel Hermann Schlicht
Registrar for Secret Matters: Oberschreibfeldwebel Heinz Berthold
General Administration: Stabsverwaltungsfeldwebel Kurt Krebs
Legal Adviser: Stabsoberfeldwebel Erich Badorreck
Flotilla Police Chief: Bootsmann Kurt Weidner
Mechanical Officer: Stabsobermaschinist Willi Tyssen
Flotilla Medical Orderly: Medicalfeldwebel Hans Burmeister
Provisions Manager: Oberverwaltungsfeldwebel Adolf Knöfel
U-boat Provisions Officer: Oberverwaltungsfeldwebel Willi Meisner

Kptlt Piening showed great promise during the rigorous training programme, and was appointed to the 7th Flotilla's veteran *U-48*, which by that time was commanded by ObltzS Diether Todenhagen. After a brief spell as a Kommandantenschüler (Commander under Training) under Todenhage's guidance, Piening was given command of his own boat, the new type IXC boat *U-155*, which was attached to 5. Ausbildungsflottille after her commissioning on 23 August 1941. By the start of 1942 Piening and *U-155* were deemed ready for operational service, and on 1 February 1942 the boat became part of the 10th Flotilla, based in Lorient. Piening proved to be a superb U-boat commander, sinking 26 enemy vessels, with a total tonnage of over 140,000 tons. He was awarded the Knight's Cross in August 1942, but his greatest success came three months later, on 15 November 1942, when he sank the escort carrier HMS *Avenger* (13,875 tons). He also developed the 'Piening Route', which involved hugging the coast of the Bay of Biscay on the way to and from the bases in Brittany. This was designed to reduce the effectiveness of enemy airborne radar coverage, and almost certainly reduced the number of U-boats lost during the period. This ended when the Spanish were forced to close off their territorial waters to German U-boats in late 1943 after severe diplomatic pressure from the United States and Britain.

Piening's tenure as an operational flotilla commander lasted just seven months, a period which saw the redeployment of the flotilla's boats into the dangerous waters of the English Channel, and attacks on the Allied invasion of Normandy. He drew up plans for the evacuation of St Nazaire, and from August 1944 he ordered boats on patrol to return to bases in Norway instead of their home ports in Brittany. The last operational boat of the flotilla to leave St Nazaire was *U-267*, which sailed on 23 September 1944. By that time American troops had isolated the port, and their front line was less than two miles from the U-boat pen. The headquarters and facilities in La Baule had been abandoned by 10 August, and the headquarters relocated to the U-boat pens. Piening continued to command a flotilla with only one boat (*U-255* remained in the pens in St Nazaire due to extensive damage), and he took her to sea in a last dramatic sortie, before surrendering the boat to the Royal Navy on 12 May 1945.

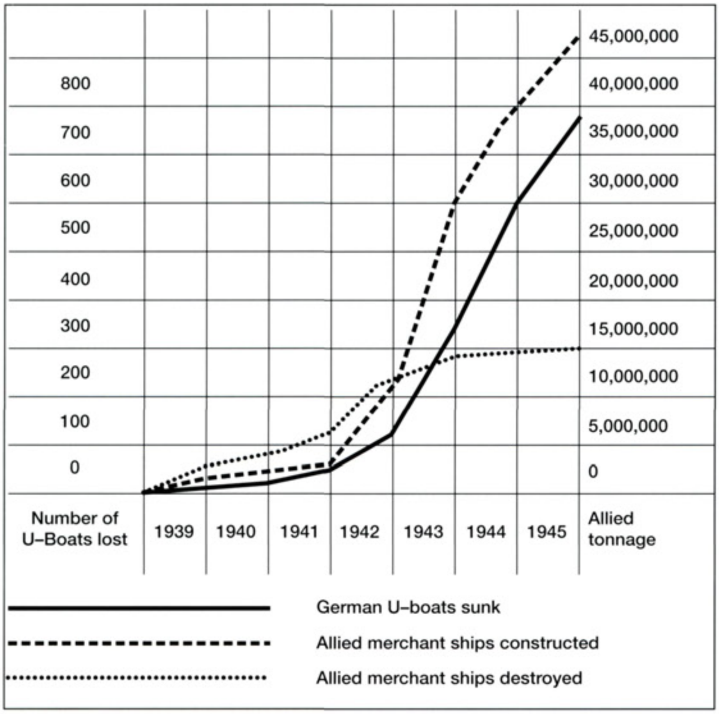
Right: Herbert Kuppisch of *U-94* shortly after having been awarded the Knight's Cross of the Iron Cross. The neatly trimmed beard suggests he has only just come into port.

Far right: Herbert Kuppisch, probably on his way out from St Nazaire. He is wearing a much favoured U-boat suit, the design of which was based on British battledress.

Above: Men of *U-48*, the most successful boat of the war. On the left is the engineer officer, Leutnant-zur-See (Ing) Erich Zürn and on the right the first watch officer, Reinhard, better known as 'Teddy', Suhren. The person in the middle is probably the third watch officer and navigator, Obersteuermann Herbert Engel.

Left: The chief of the 7th U-Flotilla, Kptlt Herbert Sohler (right), talking to Engelbert Endrass in the Hotel Majestic (La Baule) early in 1941 when Endrass was commander of *U-46*.

ASSESSMENT



Above: The correlation between U-boats lost and Allied merchant ship losses and reinforcements, 1939–45. Note: the graph shows cumulative totals (which is why the Allied ships destroyed figure levels out rather than falls).

In a room in the Admiralty in London's Whitehall, a chart followed the progress of the bitter struggle which became known as the 'Battle of the Atlantic'. Entitled simply 'Chronological diagram of principal events, 1939–45', it displayed a series of two columns, marked against a monthly scale. The two columns represented the Allied losses in terms of the monthly total of merchant shipping tonnage sunk, and the other column recorded the number of German U-boats sunk that month. In no other campaign in history could success or failure be so neatly and so accurately tabulated. For the British it was vital that a lifeline of shipping be maintained across the Atlantic; wheat from Manitoba, machinery and weapons from the United States, rubber from Brazil, and oil from Texas. Without these imports, Britain would be unable to continue her lone stand against Germany. For the Germans, victory meant keeping pace and more with the shipbuilding capacity of Britain and her empire and commonwealth, sinking more Allied ships than these yards could produce. With her merchant fleet decimated, Britain would be forced to sue for peace.

During the first dark years of the war, the general trend was for the column of Allied losses to increase every month, while the number of U-boats sunk remained at a lowly level at the bottom of the chart. This war of attrition was threatening to bring Britain to her knees, and the mounting losses of shipping remained consistently greater than the number of new merchant ships being built to replace wartime losses. The entry of the Soviet Union did little to influence the course of events, save to force the British into sending convoys through the Arctic Sea, in an attempt to shore up the defences of a Russia which was experiencing the full force of the German blitzkrieg. At first the participation of the United States of America in the war did little to alter the strategic balance. Instead, Allied shipping losses increased, as U-boat commanders enjoyed easy pickings along the unprotected American shipping lanes of the Atlantic seaboard and the Caribbean. This success was an illusion. In December 1941 Admiral Yamamoto declared that, after Pearl Harbor, Japan had awoken a 'sleeping giant', and that his fleet could enjoy one full year of naval supremacy before the overwhelming industrial capacity of the United States began to produce ships, guns and planes at a rate which the Japanese would be unable to match. The same was true of the war in the Atlantic. While losses continued to grow, American shipyards were now added to Canadian and British ones, and the number of ships under construction grew to a level which exceeded losses inflicted by U-boats. That chart in the Admiralty continued to show a steady increase in Allied losses, but suddenly in the spring of 1943, the situation changed. The losses stopped climbing, and began to fall rapidly. At the same time, U-boat losses mounted. Clearly the tide of battle had turned, through the involvement of the US Navy, the increase in the number of available merchant ships, improvements in anti-submarine tactics, and in the use of new technology.

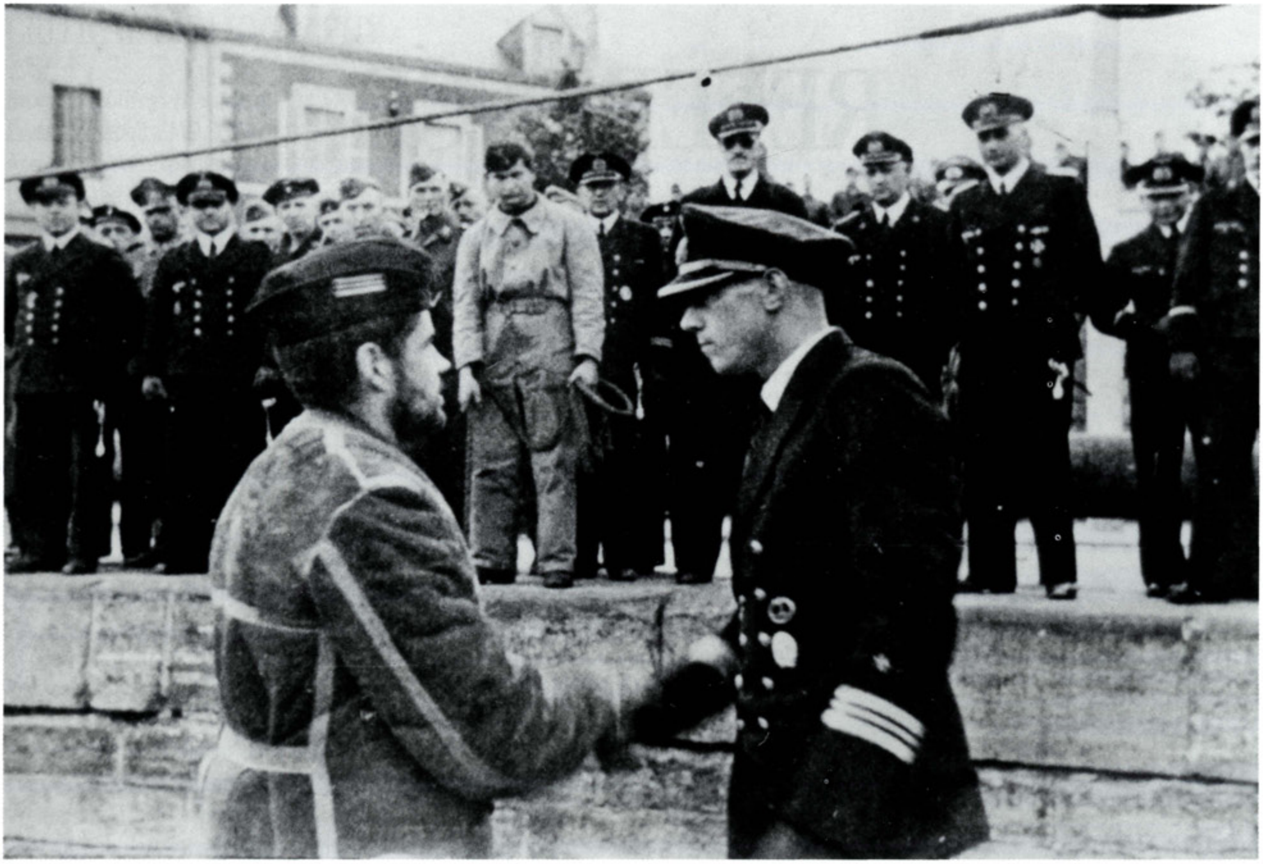
The time of peril had passed. As Sir Winston Churchill put it: 'Amid the torrent of violent events one anxiety reigned supreme. Battles might be lost and won, enterprises might succeed or miscarry, territories might be gained or quitted, but dominating all our power to carry on the war, or even keep ourselves alive, lay our mastery of the ocean routes and the free approach and entry to our ports.' For the next year, the losses of Allied shipping dwindled, while the columns depicting the numbers of U-boats lost climbed steadily. By the time the Allies were ready to invade German-occupied Europe, the Battle of the Atlantic had been won. By that stage of the war, the U-boats of the Kriegsmarine had been withdrawn from the Atlantic, and were concentrated around the shores of Britain and France, poised to block any attempt to invade 'Fortress Europe'. Instead Allied superiority at sea and in the air ensured the Normandy landings went ahead without any significant disruption from U-boats, and the subsequent break-out from the beach-heads succeeded in isolating the French U-boat bases from the rest of Kriegsmarine. Not only had Germany lost her fight for naval supremacy, but she was now powerless to prevent the flooding of Europe with men, tanks, guns and the munitions of war. Defeat was simply a matter of time.

Below: Kptlt Sohler and Kptlt Heinrich Andreas Schroeteler of *U-667*. The beard would suggest Schroeteler has just come back from a voyage.

The history of the 7th U-boat Flotilla mirrored the course of the U-boat war in general. At the start, this force of six boats acted with immense professionalism, technical excellence and sheer daring. Responsible for some of the greatest naval coups of the early war period, the flotilla's boats developed into a finely-tuned force of predators. The failures of the Norwegian campaign caused a temporary dip in flotilla morale, but the influx of new and improved boats did much to reinvigorate the flotilla. At the same time, its base of operations was changed to Brittany, cutting the transit time to the U-boat patrol areas by half. By late 1941 the flotilla strength had grown to over 20 boats, although the bare statistics belie the gruelling nature of the battle these young men were forced to fight. The heady early days of the war were over, and following the loss of many of the squadron's 'aces', these newcomers had to learn quickly, or face the same fate. Ultimately Germany was to lose her race for naval supremacy, that statistical conflict of boats lost versus tonnage sunk which was portrayed so graphically in London. Although flotilla strength reached a peak in April 1943, the campaign had already been lost.

Unable to stem the tide of Allied shipping, and faced with spiralling losses, Admiral Dönitz was forced to call off his wolfpacks. Changes of strategy failed to reverse the trend. Losses continued to mount as the Allies maintained their technological advantage over the Germans. Flotilla numbers dwindled steadily, a trend that was reflected throughout the U-boat service. Green commanders and crews were now pitched against veteran Allied escort commanders and aircrews, and it was an impossible fight. The 7th U-boat Flotilla had lost its private war, and the best her crews could hope for was to survive a war which now seemed lost.

While Hitler claimed his Reich would survive and endure, the U-boat crews forced to flee from their French bases must have thought otherwise. By late 1944 the flotilla had virtually disbanded. Although a few of its boats fought on in different units, and the flotilla staff continued to maintain a presence in St Nazaire, the naval war had become a matter of survival. Few boats remained afloat until the end of the war, and even fewer crews survived to face life in a shattered Germany. Of the 100 or so U-boats which served in the 7th Flotilla during the war, only a handful survived the war to sail into captivity. Of the thousands of young sailors who served under the emblem of the 'Snorting Bull of Scapa Flow', some 4,000 never returned. The operational history of the 7th U-boat Flotilla is therefore one of initial success, then reverse, attrition, and eventual defeat. As a means of understanding the fate of the German U-boat arm and the men who served in it, there are few better ways than tracing the flotilla's story.



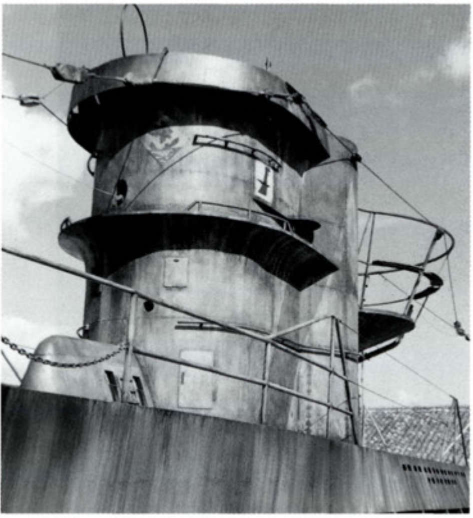
Opposite, Above: Kptlt Gerhard Bigalk of *U-751* flew as a fascist fighter pilot in Spain before joining the Kriegsmarine. On 21 December 1941 he sank the British escort carrier HMS *Audacity* off Portugal, a vessel converted from a captured German liner. Bigalk was awarded the Knight's Cross for his action. He was killed off the Spanish coast seven months later.

Opposite, Below: Kptlt Udo Heilmann of *U-97* was born in Kiel on 4 March 1913 and joined the navy in 1933, the year Hitler became Chancellor of Germany. The stars on his sleeves above his piston rings indicate he is a line officer. The other type of officer in a U-boat, the engineer officer, would have had a cog wheel instead. The large star-shaped badge below the national eagle on his right breast is the German Cross.

Above: Kptlt Sohler greeting Kptlt Helmuth Ringelmann of *U-75*. Ringelmann joined the navy in 1931, having been born in Munich during 1912.

Left: Men from *U-195* wearing life jackets and *Schiffchen*.

REFERENCE



Above: A near full-size mock-up of the conning tower of a Type VIIC was built for the film *Enigma*, and now forms part of an Enigma display in Bletchley Park. Apart from the incorrect radar direction finder, it provides an accurate impression of the appearance these boat's towers.

MUSEUMS

U-boot Archiv

The archive contains the records of all World War II U-boats. In most cases it is possible to trace the boat's entire constructional and operational history. It also contains files on personnel, which are meticulously cross-referenced to boats and units, thus providing a unique resource for researchers and interested visitors. Founded by U-boat veteran Horst Bredow (1924–), the archive has expanded over the years, and is now recognised as a maritime historical collection of international repute.

In addition to primary documents and first-hand accounts, the archive contains an extensive library on the subject. It also maintains a photo collection of about 100,000 photographs, as well as rare film footage. A museum is attached to the archive itself, and contains a priceless display of artefacts, such as uniforms, insignia, equipment and personal memorabilia. Highlights in the collection include the uniforms of Admiral Dönitz, and an Enigma encryption machine. An association known as the 'Freundeskreis Traditionsarchiv Unterseeboote' ('Friends of the U-boat Archive') was founded in 1992 to support the work of the institution, and assists the archive in its research, cataloguing, acquisition and display.

The U-boat Archive is located in Altenbruch, a suburb of the port of Cuxhaven.

U-Boot-Archiv, Bahnhofstr. 57, 27478 Cuxhaven, Germany; telephone: 04722-322. Appointments to visit can be made by phone Monday–Friday, 09.30–12.00 (German time).

WEBSITES

The U-boat Net (www.u-boat.net)

A superb site, providing highly detailed information on each U-boat in service, biographies of commanders, articles on the U-boat war, reminiscences of participants, an analysis of U-boat losses, a survey of boat types and many other features. This is probably the best U-boat site on the internet, and a resource which is still expanding its boundaries. It also contains a member service, with its own particular forum, known as 'The Conning Tower'. If only all maritime web-sites were this good! Highly recommended.

The Kriegsmarine (www.geocities.com/kriegsmarine1939/Kriegsmarine.htm

A good general coverage of the subject, including detailed sections on the U-boat arm.

The U-boat War (www.uboatwar.net)

Another excellent website, containing an operational history of the U-boat war, a section on wartime propaganda, and a useful bibliography and links section.

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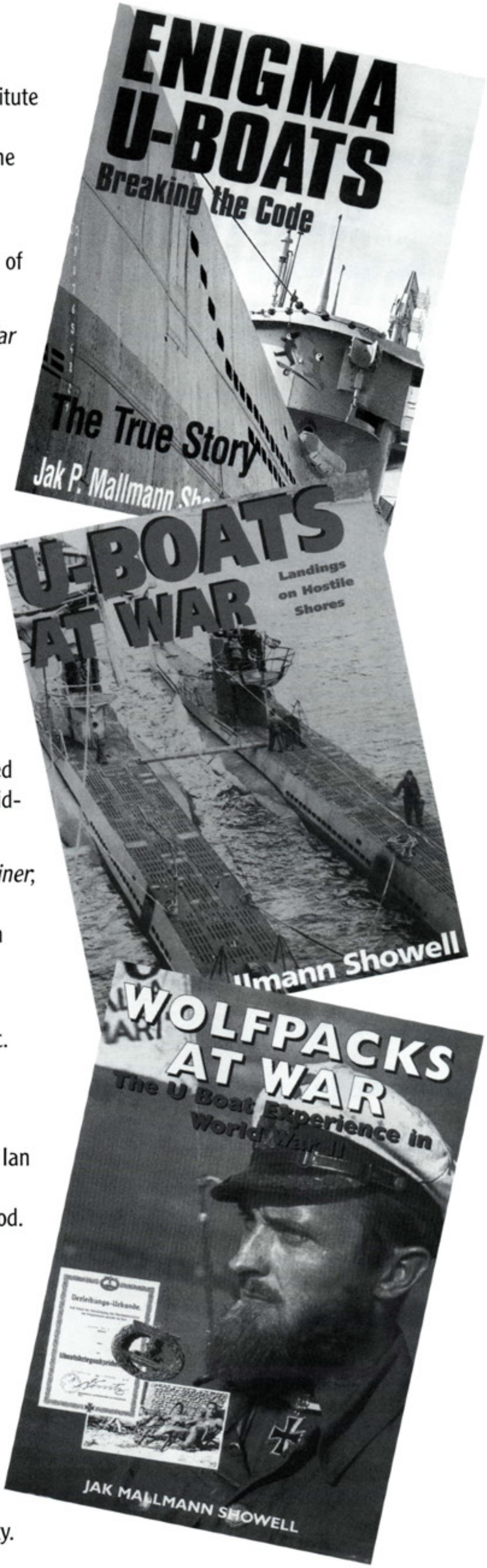

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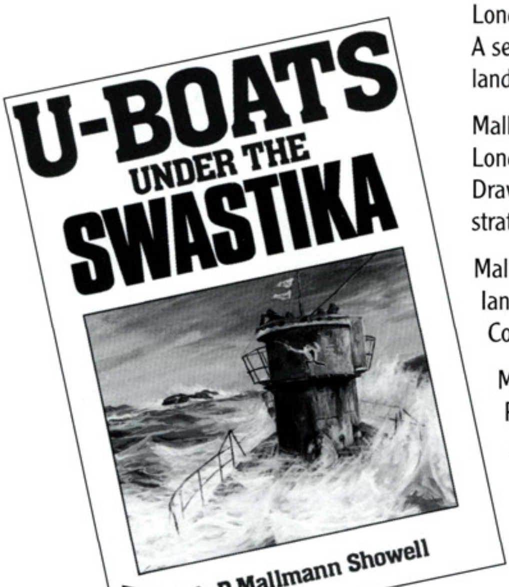

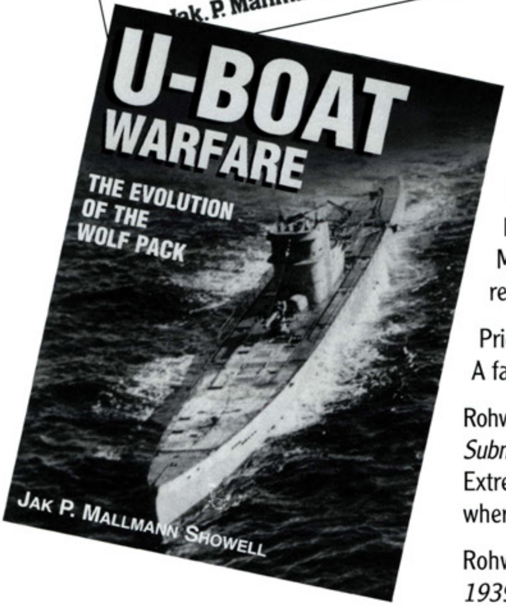

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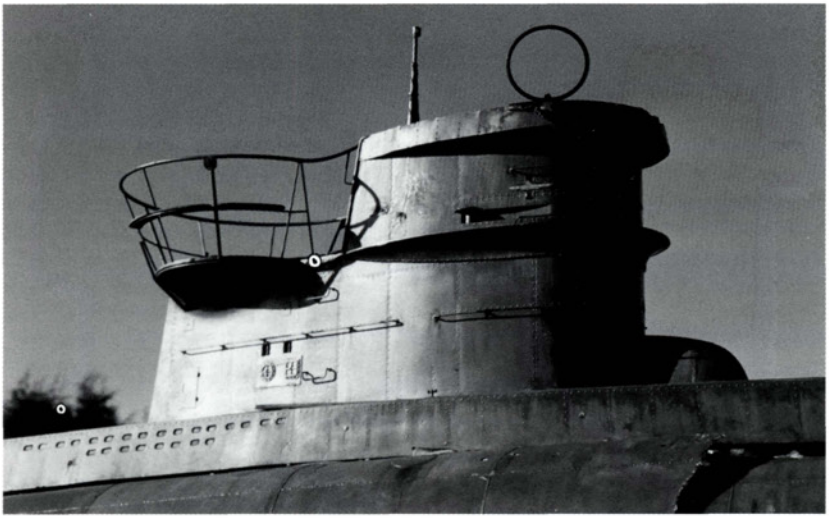

Left: A small model of a Type VIIC U-boat made for the film *Enigma* and now on display at Bletchley Park, wartime headquarters of Britain's code-breaking service.

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SPEARHEAD

7th U-BOAT FLOTILLA

Dönitz's Atlantic Wolves

The 7th U-Boat Flotilla—'Wegener'—was formed in Kiel in June 1938 with six boats, only one of which survived operationally to the end of the war. Early war action from Kiel changed completely after the fall of France when the flotilla moved to St Nazaire, where it would remain until the Allied advances led its remaining boats to move to Norway. Some 114 boats saw service with the flotilla and most of them served in the North Atlantic where their operations brought Britain to its knees. The story of the flotilla starts with the convoy predators; through the grim realities of the convoy system whose escorts benefited from Ultra decrypting of the Kriegsmarine's codes; the massacre of the U-boats attempting to halt the invasion of Europe; to the final coda as 14 boats escaped from St Nazaire to Norway.

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